ASPRS Central Region

Central Region Newsletter
American Society for Photogrammetry & Remote Sensing

Volume 15, Issue 4 August 2003

Inside this issue:

2004 Francis E. (Gene) Lortz Memorial Scholarship

The Central Region of the American Society for Photogrammetry and Remote Sensing (ASPRS) is inviting students to apply for the **Francis E. "Gene" Lortz Memorial Scholarship**.

There will be two scholarships this year, in the amount of $1,000 each. One for post-graduate or graduate students, and one scholarship for undergraduate students will be awarded.

Major eligibility requirements include:

(1) full-time student,

(2) Cumulative GPA of 2.8 or better, and

(3) Minimum of 30 semester credit hours.

The top 20 applicants will receive a free 2003-2004 ASPRS student membership. All current ASPRS members should include their ASPRS membership number on their application. The ASPRS Central Region scholarship committee will submit renewal and new membership applications.

All application materials must be received by ASPRS by October 31, 2003, in order to be considered. The winner will be notified by December 31, 2003.

Scholarship applications are available on line at www.rollanet.org/~asprs/application.pdf .

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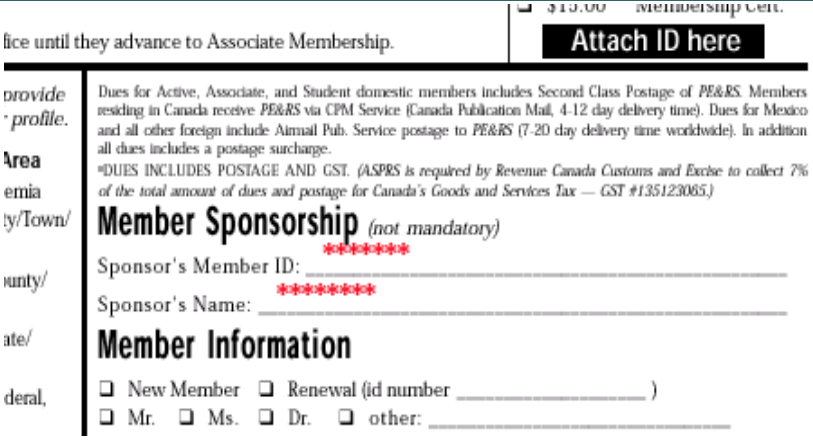
FREE One-Year Membership Opportunity

As part of the Central Region's membership drive this year, we are offering an opportunity for every member to receive a free one-year membership. Recruit three new members between now and the annual Spring Conference (held in Denver, CO on May 23-28, 2004) and **YOU** will receive a free membership. Be sure to include your name and membership number on the new recruit's membership application to receive the proper credit. Membership applications can be found on-line at http://www.asprs.org/membership.html **or** in the back of your PE&RS Journals **or** membership packets can be picked up in the Central Region Library.



fice until they advance to Associate Membership.

Attach ID here

Dues for Active, Associate, and Student domestic members includes Second Class Postage of *PE&RS*. Members residing in Canada receive *PE&RS* via CPM Service (Canada Publication Mail, 4-12 day delivery time). Dues for Mexico and all other foreign include Airmail Pub. Service postage to *PE&RS* (7-20 day delivery time worldwide). In addition all dues includes a postage surcharge.

*DUES INCLUDES POSTAGE AND GST. *(ASPRS is required by Revenue Canada Customs and Excise to collect 7% of the total amount of dues and postage for Canada's Goods and Services Tax — GST #135123065.)*

Member Sponsorship *(not mandatory)*

Sponsor's Member ID: _____

Sponsor's Name: _____

Member Information

❑ New Member ❑ Renewal (id number _____)

❑ Mr. ❑ Ms. ❑ Dr. ❑ other: _____

The sponsorship portion of the membership application.

Classifieds

The Region Board of Directors has decided to start 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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Help Wanted – Volunteer Assistant Web Master. The Central Region is looking for a volunteer to assist the web master in keeping our page up-to-date. General computer skills and good computer aptitude are required. Knowledge of HyperText Markup Language (HTML) would be helpful, but is not necessary. It is estimated that the effort would entail approximately three hours a month. Communications technology, such as File Transfer Protocol (FTP), allows this position to be filled independent of geographic location. For questions or to express interest, contact Mike Finn (mfinn@usgs.gov) or Shelley Silch (ssilch@usgs.gov).

Conference Calendar

September 3-5th, 2003, **Seventh Biennial Arkansas GIS Users Forum Conference and Exhibition: Shaping the Future of Arkansas.** Eureka Springs, Arkansas. Http://argis/ualr.edu/forum

October 6-8th, 2003, **ASPRS 19th Biennial Workshop on Color Photography, Videography and Airborne Imaging for Resource Assessment**. Logan, Utah.
Call for Papers http://www.asprs.org/cpvaira.htm
This workshop will explore the applications of high-resolution color and multispectral airborne and satellite imagery along with computer based analysis for the identification, measurement and monitoring of natural and agricultural resources. Contact: Christopher Neale, Dept. of Biological and Irrigation Engineering, Utah State University, Logan, Utah 84322-4105 cneale@cc.usu.edu

October 28-30, **ASPRS/MAPPS Terrain Data: Applications and Visualization - Making the Connection,** Charleston, SC, at the Charleston Convention Center, http://www.asprs.org/terrain_data2003/

November 5-8, **NALMS 2003: Protecting Our Lakes' Legacy**. North American Lake Management Society symposium will be held at the Foxwoods Resort Casino, in Mashantucket, CT. Given the strong history of volunteer monitoring in New England, and the presence of several volunteer monitoring program coordinators on the program committee, we are working hard to ensure good representation of the volunteer monitoring and local stewardship communities. Your participation will help make that possible! See the symposium announcement (http://www.asprs.org/meetings/nalms2003symposium.pdf). Complete details regarding the conference are available via the NALMS website at: http://www.nalms.org

Technical Presentation: Assessing Urban Land Use Change and Its Impacts on Metropolitan Statistical Areas of EPA Region 7

On July 17 at the USGS Mid-Continent Mapping Center in Rolla Missouri, Melissa Lanclos of the Missouri Resource Assessment Partnership (MORAP) presented her findings regarding the use of classified multispectral satellite imagery to assess land use change in metropolitan areas. In general, a series of six Landsat multispectral images were collected for each of three Missouri metropolitan areas--Kansas City, Springfield, and St. Louis. Images dates occurred in the fall of years between 1972 and 2000, and they were spaced approximately every five years. Each image was atmospherically corrected, classified through an unsupervised approach, and clipped to the metropolitan area of interest. Classifications were summarized for each year and compared between years to identify change. Based upon these data, urban land use in the three metro areas increased by about 250 percent between 1972 and 2000, with the majority of the new urban area being converted from grassland and forested land use categories.

Melissa's analysis has provided the Environmental Protection Agency with a general overview of major land use changes that are occurring in some metropolitan areas of Missouri. These change assessments were determined solely through image processing of Landsat imagery, which leads to the idea that similar assessments may be completely automated in the future. Subsequent investigations that include field verification and ancillary data may indicate the accuracy and major pitfalls to this approach.

For further information regarding this research please contact Melissa Lanclos of MORAP (mlanclos@usgs.gov). (Note: Omaha, Nebraska was also studied in a similar manner, but, for simplification, those results are not included in this article.)

LICENSURE FORUM

The licensure article from the last issue of the newsletter prompted some interesting responses. Those responses are included below.

The Central Region is also planning to host a panel discussion on the subject in October, 2003 (see related article on page 5.

The Kansas Association of Mappers (KAM) currently offers two designations mappers in Kansas. The Kansas Mapper (KM) and the Professional Kansas Mapper (PKM). Both of these designations are geared toward the cadastral mappers in our organization. KAM has recently been working on a designation that will be geared toward the GIS professionals in our organization who may or may not work with cadastral maps. We anticipate taking applications for candidacy and offering the examination in the very near future. Perhaps by August. This new designation (as well as the older ones), are Kansas specific and won't be nationally recognized designations. If you wish to discuss this with me further, feel free to call or write back.

Melissa Newton-Blume
President, Kansas Association of Mappers
Melissa_Newton-Blume@kdor.state.ks.us

I see the positive and the negative side of this issue.

Positive: Having to deal with data from several different sources, some commonality of the data and standards seem essential. Without some professional element, enforcement of standards would be very difficult. Further, if GIS is to become more actively accepted from a de jure rather than a de facto tool in several endeavors relevant to governmental and quasi-operation (land records,facility and utility management) standards are necessary to ensure some sort of coherent and reliable measure of the product.

Negative: Small agencies would be unable to utilize GIS because hiring a professional GIS person to operate a GIS system could be too expensive. Certification of personnel to perform specific tasks drive labor costs up (at least at the initial stage of the process). Thus, utilization of a GIS system could become prohibitive for smaller organizations. That fact that these GIS developers seem to be making GIS application progressively more user friendly, or simpler to manipulate the data, invites the proposition that the intent of this technology is to open it up to the common user.

Robert Guadagnini (rguadagnini@fayar.net)

Having served as the president (2002) of the National States Geographic Information Council (NSGIC) and on the Board of Directors for the past five years, I've stayed relatively up on developments in regard to GIS licensure and certification. I am also aware of activities in other states where this topic has become an issue.

In Kansas, I believe the GIS and surveyor communities have maintained a positive relationship over the past several years. Our state GIS operation has been involved with the KSLS and they with us, specifically in standards-setting forums. I am very interested in maintaining a good working relationship among GIS practitioners and survey professionals in the state.

We have followed the certification/licensure discussions jointly held between ASPRS, ACSM, NSGIC, URISA, etc. I am supportive of the URISA effort relative to certification , and believe a voluntary certification process is a constructive way forward for the broad and varied GIS community. I believe there is ample room for GIS practitioners and surveyors to accommodate one another's professional activities and that surveyors have a vested authority/responsibility in specific areas such as geodetic control and official boundary/parcel delineation. That said, I also strongly believe that geospatial technologies cannot be limited for use only by licensed surveyors. You might say I'm a middle-of-the-road person on these issues with a desire to work towards a mutually agreeable solution for roles and responsibilities in regard to geospatial technologies. I also think the URISA Code of Ethics effort adds constructively to this community.

In regard to specific activities in Kansas, I think the Kansas Association of Mappers (KAM)is researching a certification designation for GIS practitioners. They already test and certify IAAO recognized classifications of KM (Kansas Mapper) and PKM (Professional KS Mapper). Since KAM's membership has expanded from primarily cadastral mappers and property appraisal professionals to include a more varied set of

members practicing GIS in many fields they feel a GIS certification is needed. I am encouraging them to consider aligning their efforts with the URISA certification efforts.

I am interested in learning more about your efforts here and the results of this request for information. Most importantly, we all need to maintain open lines of communication in order to help deliver the best geospatial technologies solutions to society.

Best Regards, Rick
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I think licensing or certification would add an element of professionalism to the GIS industry that currently is not there. I would like to see a certification process similar to Professional Land Surveyors. I know there has been some discussion about GIS certification at the State/ University of Missouri level but I have not heard much about it lately.

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GIS certification and licensing is a difficult issue. As a Geographer, certification and licensing are foreign concepts. I think all the certification and licensing talk is coming from outside the geography discipline. Surveyors, civil engineers, and planners are interested in certification and licensing because it's a part of their respective disciplines. ASPRS, URISA and NASA have all talked about certification processes. URISA's is the most talked about, but ASPRS' is the oldest. NASA has been talking more about workforce qualifications. So of the universities (Southwest Missouri State University included) have started giving GIS certificates but there is no standard that must be met to get them. Licenses are given by States and I haven't heard of and action at that level in Missouri. Other states are considering licensing and a couple have a simplistic form of it (South Carolina comes to mind).

I do think that licensing and certification of GIS are coming in the next 10 years. The organizations that get themselves linked to this will be stronger for it. ASPRS should be proactive in its attempt to capture that market before others such as URISA and ACSM or others get control of it. SMS is committed to developing educated persons that meet the certification and licensing requirements.

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Certification yes. Licensing no. It would be good to have qualifiable projects and data, but annoying to require licensing for those of us who are public servants and have a need to freely share information.

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My concerns are many-fold and include what is meant by "licensing or certification"? There are many people who use and maintain "geographic materials"; are they qualified? Is it limited to whom determines qualifications as members of ASPRS, or ESRI, or AutoCAD, or APA, or AAPG, or ??????. You see, there are different types of uses for GIS, and therefore everyone should (those who use Geographic Information

Systems) have some input in any possible licensing or certification.

I would like my two-cents worth, as I would like yours and all the others who would be affected by this.

John D. Hardin (John_Hardin@ci.springfield.mo.us)

I co-chair a committee that was established by the Arkansas State Land Information Board to review the issues of certification and other professional standards. As the GIS workforce grows some type of credentials will be necessary, it doesn't seem reasonable to require data standards without giving some thought to the individuals creating the data. Arkansas has yet to develop state job descriptions for GIS users.

As an educator, I strongly believe in developing a rigorous curriculum that produces quality technical individuals. The reality in Arkansas is that organizations starting GIS projects either convert existing employees or hire unskilled individuals. Over time these individuals 'grow' into their jobs. There is also an economic side to this issue that needs to be considered, affordable work force!

mike
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This is an important issue to all of us. Your ASPRS Central Region board of directors wants to know how you feel about this issue. In an effort to keep membership informed and share viewpoints on the subject we are gathering input form members and other parties, which will in turn be printed in future newsletters.

- If you know of any licensure or certification activities in your state or community please share them us.

e-mail your comments to sperkins@westernair.com or prufe@usgs.gov

Thank you for your input. —*Scott Perkins*

Central Region to Host Panel Discussion on Licensing and Certification
October 21, 2003

As noted in our past newsletter, the licensure issue has received considerable attention over recent years. Consequently, the Central Region will host a panel discussion regarding licensing and certification of work that involves photogrammetry, remote sensing, or GIS. The meeting is scheduled for October 21, 2003 from 1:00 to 3:00 PM, Central Time (CT), at the Mid-Continent Mapping Center of the USGS in Rolla, MO. The panel will include members from the private sector, and state and federal government agencies.

ASPRS National Vice President (VP), Karen Schuckman, has been promoting the ASPRS certification programs in various states. At this forum, Karen will describe the ASPRS programs and her recent efforts, along with helping to facilitate the talks. Some topics that the panel will address include grand-fathering, comity, and development of examination content. Please join us and voice your opinion at this discussion:

For more information, contact Larry Stanislawski: *lstan@usgs.gov*
Forum on Licensing and Certification for Mapping Professionals
1:00 – 3:00 PM, Tuesday, October 21, 2003
USGS Mid-Continent Mapping Center
1400 Independence Road
Rolla, MO

Technical Presentation: "Where Did the Ice Age Melt-waters Go?" A Remote Sensing Perspective

Neil Elfrink, a geologist with the Geological Survey and Resource Assessment Division (GSRAD), Missouri Department of Natural Resources, will give the above-titled presentation on September 9 at 10:00 AM at the USGS Mid-Continent Mapping Center in Rolla Missouri.

NASA's Shuttle Radar Topography Mission (SRTM) has produced a high-resolution mapping database of North America that is giving researchers great topographic views of entire drainage basins. The geologic history of the streams that carried melt-waters away from melting Pleistocene ice sheets has long been a topic of scientific debate. Biologists studying the distribution and evolution of freshwater fishes in the mid-continent have proposed large-scale shifts in the location of the melt-water streams, while geologists generally prefer a more stable drainage network. The former courses of ice-age melt-water streams can now be seen on the images released by NASA. Topographic features created by the drainage shifts, such as the Tetaseau Flats in Central Missouri, can be studied using ESRI's ArcGIS and high-resolution DEMs.

News From The Mt Oread Student Chapter

Another semester is ramping up here at The University of Kansas and The Hill (a local reference to Mount Oread) is abuzz with excitement. The Mount Oread Geospatial Technologies Club has many exciting activities planned for the coming year.

We are busy coordinating several field trips and arranging a lineup of guest speakers. Our first field trip will be to Western Air Maps in mid-September. We are very excited for Scott Perkins and his crew to show us their operation and share their wealth of knowledge. The club would like to extend a special thanks to Scott for his ongoing support and encouragement.

We are hoping to make a pilgrimage to EROS Data Center is Sioux Falls, South Dakota in October. Dr. Stephen Egbert, the club's faculty advisor, would like to arrange presentations by some our members to showcase their recent research efforts to the EROS staff. If anyone has a small jet and would like to fly us up to Sioux Falls, please let us know so we can cancel our van reservation.

In conjunction with the Department of Geography and the Kansas Applied Remote Sensing Program, we are planning a booth at the KU Open House on Saturday, September 20th (http://www.openhouse.ku.edu/). For anyone in the Lawrence area who is looking for a fun Saturday activity, this is a great family oriented event.

If you are an ASPRS Central Region member and are going to be in the Lawrence area, we are always looking for new guest speakers who can share their experiences with our members. We'll even buy you lunch! Please contact Kevin Dobbs at kevindobbs@ku.edu to arrange a visit. For more information about club, please visit our website http://www.kars.ukans.edu/asprs/.

Field Research in the Balkans

Map illustrating the Balkans regions visited during this study.

While life for a graduate student can be hectic at times, this trip took the cake for unplanned adventures. In June, four days before a planned weekend fishing excursion in Colorado with an old friend, I received a call from my PhD advisor, Dr. Jerome (Jerry) Dobson. After a quick hello, Jerry asked me if I had a valid passport and if I had anything scheduled for the next week. Other than the fishing trip I told him I was completely open, and he quickly asked if I would could put that off to go with him to the Balkans. Specifically, Jerry needed a research partner to travel with him to Slovenia, Bosnia Herzegovina and Croatia to conduct fieldwork for an ongoing population modeling study. After a quick realization that both Colorado and the trout that call the state home would be there when I returned, I told Jerry to count me in.

Before the trip, I had to quickly become familiar with the work that Jerry previously had been involved in and how it had led up to our forthcoming project. Funded by the U. S. Department of Defense, the LandScan Global Population Database has been adopted by national and international organizations as a de facto world standard for estimating populations at risk from terrorism, technological accidents, regional conflicts and natural disasters. The spatial resolution of the global LandScan raster database is 30 arc seconds of latitude by 30 arc seconds of longitude, which equals about 1 square kilometer per cell at the equator and grows finer towards the poles. Landscan represents a quantum leap in precision from the previous world standard, made possible by a remarkable jump in the public availability of global databases in the late 1990's and recent advances in GIS and Remote Sensing technologies. For more information about the development of the LandScan database see Jerry Dobson's article "LandScan: A Global Population Database for Estimating Populations at Risk" in the July 2003 issue of Photogrammetric Engineering and Remote Sensing, or to access the 2001 data set visit the Oak Ridge National Laboratory site (http:/www.ornl.gov/gist/).

While LandScan represents the best currently available worldwide population dataset, many situations require information at a much finer spatial resolution. With more refinement, it would be technically feasible to push LandScan down to a 15 by 15 arc second resolution, but this comes nowhere near the precision required for population assessment at the scale of small neighborhoods, city blocks or individual buildings. The solution to this problem can be decomposed into two parts:

1) Estimating how many people typically occupy each type of building by day or night and
2) Measuring how much floor space is available for occupation.

Our goal in this trip was estimating the population densities of building types in the Balkans while the measurement of floor space was left to be addressed at a specific location where a disaster or potential disaster is known, and the need is clear and compelling. These local enhancements to the Landscan database are essentially refinements to methods used by settlement geographers principally from about 1920 to 1970.

The city of Ljubljana, Slovenia as seen from Ljubljana Castle

After our work had been explained as a spatial problem, I felt comfortable that my Geography back-

Statue guarding the Dragon Bridge in Ljubljana

ground as a remote sensor would prove adequate for our task. After all, a pixel is a pixel whether it contains spectral reflectance values, land cover types or population. With our work laid out and our travel plans arranged, Jerry offered two insights gained from years of foreign travel:

1) Most often people will have more animosity towards their neighbors than Americans and
2) You are at the greatest risk in a foreign country while riding in a taxi.

After the longest and most disorienting plane flight of my life, we found ourselves transplanted from Kansas to Ljubljana, Slovenia. This location was most like what I had expected from Europe, with a rolling, lush and green countryside dotted with villages and farms and tightly packed urban centers. Before getting to our research, our first task in Ljubljana was attending a meeting of the South Eastern Europe Mine Action Coordination Center where, among other things, Jerry presented information about population data and how it could help the area's de-mining efforts. After the meeting concluded, we proceeded to explore the city with its maze of ungridded streets, open air cafes, well dressed population, dragon guarded bridges and of course a castle overlooking the city. The value of our work became quickly apparent as we investigated numerous building types, noting and discussing how their layouts and population distributions differed from other parts of the world.

The Triple Bridge and Franciscan Church in Ljubljana at night

Our second destination for this trip was the country of Bosnia-Herzegovina. A meeting point of east and west for nearly two millennia, this country has seen its share of strife in the 20th century. World War I was sparked in Sarajevo, much of the bitter partisan fighting of World War II took place in this region, and most recently, after declaring independence from Yugoslavia in 1991, Bosnia was the location of an ethnic war until 1995. The Muslim population of the country is commonly referred to as Bosnian, while most of the Serbs are Orthodox and most Croats are Catholic. While all sides have had their fair share of delivering and receiving wrongdoings as long as most people can remember, it appeared that things were stabilized for the time being. Even though people appeared relatively relaxed towards one another, Sarajevo served as a perfect example of Jerry's 1st rule of foreign travel. It was easy to infer which side people would jump to if conflict were to spark up again and very little of these feelings had

The city of Sarajevo near the Miljacka River

anything to do with us as Americans. To put it in perspective, I've felt more uncomfortable walking around at night on the streets of New York or San Francisco than I did while in Sarajevo. Despite the highly visible scars of war (nearly 100% of all buildings in the city had some sign of war damage), Sarajevo is again bursting with energy as locals spend leisurely evenings strolling down the main pedestrian streets and around the city the foundations of commerce and industry are beginning to surface.

The last stop of our trip was the coastal city of Split in the country of Croatia. We had a great opportunity to see a bit of the Bosnian and Croatian countryside as we chose to take an extended cab ride from Sarajevo to Split with an English-speaking driver. The ride gave us the opportunity to ask questions about what we were seeing and stop at several of our driver's favorite points along the way. Despite the fact that it flew in the face of Jerry's 2nd rule of foreign travel, this cab ride along the rocky Croatian coast overlooking the crystal-clear turquoise waters was one of the trip's highlights. Our time in Split was very busy as we tried to complete our final tasks, but I can't think of a better setting for work. Diocletian Palace, built in 305 AD by the Roman emperor of the same name, is located in the heart of Split. Art galleries, open-air markets and cathedrals are located within the palace walls, while outside the remainder of Split has grown into a major industrial city. The two days spent here were hardly enough to take in the city, let alone the country, but like the rest of the trip they served as a great way to get a taste for this fascinating corner of the world.

Small coastal town in Croatia

Artillery damage commonly seen throughout Sarajevo

With our work finally complete, we returned to the States to absorb all that we had seen and experienced. As Jerry likes to say, any kind of travel is fieldwork for a Geographer, and it is as crucial for us as lab time is for a chemist or microbiologist. With that in mind, I am eagerly awaiting my next Geography lesson on our upcoming assignment in East Asia.

Matt Dunbar is a Graduate Student at the University of Kansas and a Research Assistant at the Kansas Applied Remote Sensing Program (KARS). Matt also serves as the Mt. Oread ASPRS Student Chapter Secretary.

Matt Dunbar near the city center of Split, Croatia.

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