base line

a newsletter of the Map and Geography Round Table

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FROM THE CHAIR
Mary McInroy, University of Iowa

By the time you read this, I will most likely no longer be MAGERT Chair, having turned over the position to Chair-Elect Steve Rogers at the Toronto Annual Conference. I certainly hope the conference went well for all in attendance.

I would like to take some time to thank those who helped me during my year as Chair. First of course, I must thank Immediate Past Chair Mark Thomas, who was a fountain of information about chair duties and many other areas. Chair Elect Steve Rogers was also *very* supportive and a good source for reasoned opinions when I seemed to run short. Thank you to the others on the MAGERT Executive Board, i.e., committee chairs, discussion group leaders, liaisons, and representatives. Members of committees, your work will make or break MAGERT, and I thank you for your efforts. And last but definitely not least, thanks to you members out there, who join the organization, read the newsletter, come to the conferences, and who are serious enough about map librarianship to give of your time and money to keep MAGERT going.

At the mid-winter conference, we heard loud rumblings about consolidation of services in members' libraries. In numerous libraries, for example, map collections are being combined with documents departments and/or general reference departments. Since service consolidation has occurred in many Canadian libraries already, I assume we will have heard more about this in Toronto. What will this trend mean? For us map librarians who are part-time already, it may mean we'll have even less time to spend on our cartographic duties. We may remain the "expert" on cartographic information in our library, but feel uncertain that someone will take our place when we retire (yet another demographic trend) or move on.

On the professional organization level, how will this service consolidation trend affect MAGERT? I believe that answer is in some ways up to us. Many reference people who do very little map-related reference may bypass MAGERT entirely and spend their professional time and energy on more mainstream or subject-oriented organizations, divisions, and roundtables, unless…. Unless we find ways to involve these librarians with map librarianship issues—maybe offer more programs for novices, or help MAGERT's Education Committee develop aids to assist these new recruits. Unless we actively mentor new library school graduates on what makes map collections unique and valuable. And unless we become involved with cartographic/geographic information issues on our campuses and in

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our communities. These suggestions are just starting points.

The SARS scare in Toronto, and the early spread of the disease from country to country, illustrate how small our world really is. But as I have noted in this column before, MAGERT members already "get" how important geographic information is to all of us. We need to use our knowledge and skills to assure that librarians and students continue to "get" the value of maps and cartographic information, no matter what library department they work in.

Thanks for the memories.
Mary MC

URISA PUBLIC PARTICIPA-
   TION GIS CONFERENCE

K Posted to MAPS-L by Scott Grams
  on May 20.

The Preliminary Program is now available for the 2nd Annual URISA Public Participation GIS (PP-GIS) Conference. The event will be held from July 20-22, 2003 at Portland State University in Portland, Oregon. Public Participation GIS (PPGIS) refers to a range of topics raised by the intersection of community interests and GIS technology. The PPGIS Congress will bring together participants with a rich diversity of experience. To view the complete preliminary program please visit the following link:

http://www.urisa.org/ppgis.htm

Due to an overwhelming response to the Call for Presentations an additional track has been added. In total, the Conference features 5 tracks with presentations divided into the following subjects:

PPGIS Practice, Monitoring and Evaluation
PPGIS Theory/PPGIScience
Data Issues
Organizations and Institutions (Using and being affected by PPGIS)
International Perspectives.

There will be no printed preliminary program for the Conference. http://www.urisa.org/ppgis.htm features the complete program and will be the best source for updates and current information concerning the event.

Registration:
Early Registration Rates:
URISA Member: $125; Nonmember: $150
Full Time Students/Non-profit group employee/staff: $65 (proof of affiliation required)

We hope you can join us in beautiful Portland, Oregon for this can't miss event. Register now, as space is limited.

ON THE CATALOGING/CATALOGUING FRONT

Scott R. McEathron, University of Illinois at Urbana-Champaign (for Mark Crotteau)

Report on ALCTS-CCS/MAGERT Map Cataloging Discussion Group

The meeting of the ALCTS-CCS/MAGERT Map Cataloging Discussion Group was brought to order at 8 AM January 26, 2003 at the Sheraton Society Hill Hotel, Philadelphia, Pennsylvania with 23 attendees. After introductions were made, the Chair brought to the attention of the group an email dated October 4, 2002 from Mary Dabney Wilson, CCS Chair, regarding ALCTS possibly authorizing "Interest Groups" in addition to, or possibly instead of, "Discussion Groups." Discussion ensued on the differences between Interest Groups and Discussion Groups with Dorothy McGarry providing a history and context on how Discussion Groups initially came about at ALA meetings. Nearly all of the comments expressed the value of the ALCTS-CCS/MAGERT Map Cataloging Discussion Group and were in favor of maintaining its status as a Discussion Group. A straw poll was taken with a unanimous outcome in favor of remaining a Discussion Group.

The Chair then opened the floor for discussion or questions and asked those in attendance if they knew of any large projects that may result in a windfall of new map cataloging records. Paige Andrew reported that Penn State Library was well into a five-year retrospective conversion project. Barbara Story reported that three new catalogers have been hired by the Library of Congress Geography and Map Division. The Chair then reported on an imaging project at the University of Illinois at Urbana-Champaign Library that resulted in the cataloging of the first editions of the 15-minute topographic quadrangles that cover the State of Illinois. This brought up the question from the Chair of what is the appropriate main entry (corporate vs. personal name) for historic topographic quadrangles. Kay Johnson expressed similar difficulties in determining main entry for U.S. Government maps of Tennessee. Consensus from the group was that corporate main entry was most appropriate for these types of maps.

Paige Andrew asked what people thought the status of map cataloging across the country was. "Are we in a period of growth or contraction? Is there a need for additional outlets for outsourcing maps (outside of OCLC)?" Numerous and varied opinions were expressed in response to these questions. Jeff Gibbons expressed reservations in outsourcing for maps because of the time-intensive nature of managing such a project. Others suggested that they felt that it would be difficult to go into business for oneself cataloging maps. Many expressed apprehensions in the current status of map cataloging with the recent economic downturn.

The Chair asked for nominations from the floor for election of Vice-chair/Chair elect—no nominations were received. The Chair asked Elizabeth Mangan the status of the 2nd edition

of Cartographic Materials. Mangan reported that the work was at the publishers. Paige Andrew reported that his book should be out soon. Indeed, *Cataloging Sheet Maps: The Basics* by

Paige Andrew is out as reported previously by Fred Musto in *base line* 24(2): 38.

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RUMSEY EXHIBIT AT AIRPORT

K Posted to MAPS-L by Phil Hoehn on May 30.

An exhibit entitled "Mapping America" has opened at the San Francisco Airport Museum featuring the David Rumsey Map Collection. The exhibit also employs digital screens with images of the exhibition maps taken from the Rumsey online Map collection at
 http://www.davidrumsey.com. The show provides a unique look at America's historical evolution through a selection of eighteenth, nineteenth and twentieth-century maps.

Rumsey says he can't image a better place to exhibit his private map collection than the airport, the only accredited museum in an airport in the country. The installation includes 74 maps, atlases, guidebooks, globes and charts from his private collection, which numbers more than 150,000 pieces.

The Mapping America exhibition is on view through January 15, 2004 and is open 24 hours a day, free of charge. It is located pre-security in Gallery D-5 Central South Connector, located between Terminals 1 and 2 near the Delta and American Airline gates. For a map locating the exhibit space see http://www.sfoarts.org/maps/index.html

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SUMMER MAP EXHIBITS IN NEW ENGLAND

K Posted to MAPS-L by David Cobb on May 22.

If you are unable to attend any of the professional meetings, recently announced by David McQuillan, but are planning to be traveling in New England this summer you might be interested to know that there will be three excellent cartographic exhibits all within easy driving distance of each other. Opening first will be the "Cartographic Treasures at Harvard" exhibit which will coincide with the 20th International Conference on the History of Cartography (ICHC) and will run from June 16th through September 2003. Also coinciding with this conference will be an exhibit at the Osher Map Library in Portland, Maine entitled "Mapping the Republic: Conflicting Concepts of the Territory and Character of the USA, 1790-1900," with smaller exhibits at the Maine Historical Society and the Portland Museum of Art. And, if that is not enough, you can then travel to the Concord Museum in Concord, Mass. to view "Degrees of Latitude: Maps of America from the Colonial Williamsburg Collection" from July 10 - October 19, 2003.

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ELECTRONIC MAPPING
Wangyal Shawa, Princeton University

Review of JPEG2000 and Geo-JP2 Compression Software

Our library is scanning analog maps and aerial photographs into digital format as well as acquiring digital aerial photographs, satellite images, and scanned maps from commercial sources. One of the biggest challenges that we face is how to make those large files accessible online to our patrons to view and download in a reasonable time. For the last few years, I have been exploring the technology that will solve these problems.

LizardTech's MrSID is one of the software packages on the market that does a very good job in compressing a large image file. In fact, we purchased this software a few years ago and made some of our digital collection available online using their free Image Server software on our server. However, I was not comfortable converting large digital files into proprietary file format and making them available over the Internet via non-supported Image Server software.

At the last ALA annual conference I saw a booth advertising a product called JPEG2000. The salesperson explained to me that their product uses a wavelets algorithm to compress images and create a file called JP2. This file format is non-proprietary and had become a new ISO standard for image compression in December 2000. I was really interested to find more information about this product because it uses an image compression algorithm similar to MrSID, but the JP2 file is not a proprietary file format.

The history of JPEG2000 (http://www.jpeg.org) can be traced back to 1996 when a group of organizations and companies including the International Organization for Standardization, the International Telecommunications Union, Agfa, Cannon, Elysium, Fujifilm, Hewlett Packard, Kodak, Lura Tech, Motorola, Ricoh, Sony and others decided to start a new image coding system that would comply to ISO standards using wavelet compression technology. The JPEG2000 standards were originally divided into eleven parts, but part seven was later dropped.

- Part 1: Core coding system
- Part 2: Extensions
- Part 3: Motion JPEG 2000
- Part 4: Conformance testing
- Part 5: Reference software
- Part 6: Compound image file format
- Part 8: JPSEC (JPEG 2000 images security)
- Part 9: JPIP (Interactivity and protocols)
- Part 10: JP3D (Volumetric coding)
- Part 11: JPWL (Wireless applications)

A JP2 file structure consists of a collection of boxes. Some of them are independent and some contain other boxes. The box names include JP2 signature box, profile box, JP2 header box, contiguous codestream box, intellectual

property box, XML box, and others. Some of them are required and some are optional.

My understanding is that JPEG2000 Part 1, which covers the core coding system that deals with general encoding and decoding, will be free of royalty and license fees. However, special capabilities built within JPEG2000 standards such as handling mixed-raster documents and other protection for images that are addressed in Part 2 and Part 8 may not be free of royalty and license fees. Some people feel uncomfortable using JPEG2000 file because of its controversy over royalty and license fees. Here is a quote from the JPEG2000 committee web page: "The JPEG committee would like to re-affirm that it has always been a goal that its standards should be implementable in their 'baseline' form free of royalty and license fees…. [C]onsiderable time has been spent to arrange licensing on these terms, where relevant, and to ensure that in accordance with the ISO Directives 2.14, patented technology is only used in exceptional circumstances within the standards for which the committee is responsible. The new JPEG 2000 baseline standard (ITU-T T.800 | ISO/IEC 15444-1) has also been prepared on this basis, and currently over 20 organisations, holding many patents in this area, have agreed to allow licensed use of their patents and other intellectual property in connection with baseline implementations of this standard free of license fees or royalty fees."
There are many commercial companies such as Lura Tech, Image Power, Lead Technologies, Aware, and Mapping Science that are selling JPEG2000

related software packages. However, I found very few companies that have developed a server side technology to make images available over the Internet without using any plug-ins. One of the companies that provides that solution is Aware, Inc. of Bedford, MA. If you are planning to compress georeferenced images without losing their georeferenced information, the Seattle-based Mapping Science, Inc. company is the only company in the market that provides that solution. They have also developed a free ArcView 3.x extension to view their compressed image in ArcView software. They also developed a support to compress hyperspectral and multispectral images. The compressed file created by using Mapping Science's software is called GeoJP2. They are also working on developing image server technology. I recently checked their prototype and it looks quite promising.

Their product does a really good job compressing image files. Here are some of the results: I compressed a black and white aerial photo, which is in TIFF file format with a world file. The original file size was 62,509KB, and when compressed to GeoJP2 file format with a ratio of 10:1 the file size was reduced to 6289KB. I used the same file in MrSID software to compress it with the same ratio as GeoJP2 file, that is, 10:1 and the file size was reduced to 7,179KB. However, when I compressed a 24-bit color TIFF file with a file size of 153,600KB with a ratio of 10:1 into GeoJP2 the file was reduced to 15,452KB. The same file, compressed using the same ratio as above with MrSID, was reduced to 10,569KB. In addition, I have tested

the JPEG2000 file. What I found was that some of the software packages don't support a compressing of 256-color image files into JP2 format and the image has to be in 24-bit color.

The GeoJP2 file format is becoming popular within the geospatial community, and major GIS and Remote Sensing software companies are slowly accepting its file format. The same is true with the general JPEG2000 file. The JPEG2000 committee is working to make its new ISO standard image encoding system one of the standard images for the web browser.

After talking to some companies that are involved in organizing JPEG2000 committee and reading and testing the JPEG2000 and GeoJP2 file formats, I feel comfortable in implementing JP2 file format as the option to make large images available over the Internet even though there is a controversy over royalty and license fees. I see a great potential in the future of JPEG2000 because of its great image compression technology, which has become the new ISO standard, and because of the committee's determination to make JPEG2000's core coding system free of royalty and license fees.

If you want to test the JPEG2000 encoding system you can download freeware and demo software from the following web pages:
http://www.algovision-luratech.com
http://www.imagepower.com

http://www.mappingscience.com/msi.
   html
http://www.leadtools.com.

Free Landsat Thematic Mapper (TM) Data of the World

There are two web sites that provide free Landsat Thematic Mapper data online.

Landsat 4 and 5 data in Geotiff format: One of them is University of Maryland's Global Land Cover Facility; it allows a person to download all the bands of Landsat 4 and 5 data in a Geotiff format. The data can be accessed either by using the map or by typing row and path numbers. The web site is http://glcf.umiacs.umd.edu/data/

Landsat 5 data in MrSID format: Another site that makes Landsat 5 available free online is NASA Earth Science Enterprise's John C. Stennis Space Center. They have combined Landsat 5's band 7, 4, and 2, and mosaiced six or more scenes together to create Geo-Cover Landsat mosaics that cover an area of roughly 5 degrees latitude and 6 degrees longitude. The mosaic image color composition was enhanced and saved in MrSID file format. The web site is https://zulu.ssc.nasa.gov/mrsid/

Great Moments In Map Librarianship by Jim Coombs