Wanted: One Editor
New Maps
Preliminary Miami Schedule
MAGERT Hotel for Miami
From the Chair
base line Survey
New Books and Maps
And From the Editor
Miscellaneous
Corrections and Comments
The Map Library in Transition
Great Moments in Map Librarianship
base line is an official publication of the American Library Association’s Map and Geography Round Table (MAGERT). The purpose of base line is to provide current information on cartographic materials, other publications of interest to map and geography librarians, meetings, related governmental activities, and map librarianship. It is a medium of communication for members of MAGERT and information of interest is welcome. The opinions expressed by contributors are their own and do not necessarily represent those of the American Library Association and MAGERT. Contributions should be sent to the appropriate editor listed below:

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WANTED: ONE EDITOR

It may be a bit unusual to start an issue with the Want Ads, but this is an important one, and I wanted to be sure that no one missed it. With the June issue of base line, I will have been the Editor for five years. It's been fun, but it's time for me to do something else, the something being, in this case, the incoming MAGERT Chair.

THEREFORE, I need a bright, eager volunteer to take over base line.

The duties of the Editor (as defined in the base line Manual) are as follows:

The Editor is responsible for the final editing and compilation of all columns and features that comprise each issue of base line. The Editor is also responsible for preparing camera-ready copy to be sent to the Production Manager.

Specific Duties

1. Compiles and edits each issue of base line.

2. Has the final decision on what materials and columns will be included in each issue of base line.

3. Forwards appropriate material to the New Books, New Maps, Computer Information, and Cataloging Editors.

4. Establishes the deadlines for receipt of material for each issue of base line.

5. Prepares camera-ready copy using a desktop publishing package for delivery to the Production Manager. This copy is printed using a laser printer and is mailed to the Production Manager via first class or express mail.

6. Delegates responsibility to the appropriate editors and managers. Answers questions the editors and managers may have concerning base line.

7. Serves as an ex-officio member of the MAGERT Publications Committee and answer any questions the Committee may have concerning base line.

8. In cooperation with the Chair of the Publications Committee, the Editor fills any editor or manager positions that may become vacant.

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9. In cooperation with the Chair of the Publications Committee, the Editor examines ways in which base line can be improved, including the creation of new columns and features.

10. Is responsible for maintaining the base line Manual and keeping the Publications Committee informed of significant changes in the Manual.

11. Will submit a report to the Publications Committee at least once a year.

If you have any questions, please feel free to contact me. If you want to volunteer, please contact Jim Coombs. Both of our addresses are on the masthead.

NEW MAPS

ASIA

NOAA-AVHRR Image Map of China. Scale 1:6,000,000. 107 cm x 76 cm. "This map represents an integration of space remote sensing technology, computer technology and cartographic expert knowledge. It is the first satellite image map of China generated from the thermal infrared, near infrared and visible red bands of AVHRR data...Albers equal area projection is used for the mainland and Mercator projection for the South China Sea. Place-names of major geographical features are provided." 1993 English-Chinese bi-lingual edition, $20.00. Geocarto International Centre, G.P.O. Box 4122, Hong Kong. Tel: 852-546-4262, FAX 852-559-3419

International General Geographic Map Series of China. 1:1,000,000. Set of 74 sheets is $1406 US, per sheet price is $19 US. 15 maps were due in 1991, 30 in 1992, and 29 due in 1993. Available from PRS Publications, Block A 25/F Wang Fai Mansion, 2-12 Wang On Road, Hong Kong. FAX 852-806-1634 (Thanks to Cheryl Woods and Margaret Eva for this contribution)

AUSTRALIA

Geological map of Alligator Rivers Uranium Field, NT. 1:250,000. One sheet, in color. 1990. $22.00 Australia Geological Survey Organization, Sales Centre, GPO 378, Canberra, ACT 2601

NORTH AMERICA


Fire Insurance Maps from the Sanborn Map Company Archives, 1900s-1990. Research Collections in Urban History and Urban Studies. General Editor, Bruce M. Stave. University Publications of America is now marketing a collection of Sanborn maps which have not previously been available on Microfilm. UPA now has approximately 280,000 maps, dating from the 1900s to 1990, most done after 1945. They cover 3,500 U.S. cities and towns. You can purchase the complete collection or just a state or city. Call or write for a complete list and the prices. University Publications of America, 4520 East-West Highway, Bethesda, MD 20814-3389. Tel. 800-692-6300, 301-657-3200 outside U.S., FAX 301-657-3203

Minnesota Historical Society Press, Order Dept. 103, 345 Kellogg Blvd. W., St. Paul, MN 55102-1906 has the following publications available:

William V. Harancourt’s MINNEAPOLIS, MINNESOTA. Minneapolis: J. Monasch, 1885. This panoramic map shows the city from the north and concentrations on the St. Anthony Falls area with its booming flour milling and lumber trade. The size (24 x 36) is slightly reduced from the original. The map, acquired in 1989, required extensive restoration by the Society’s conservation staff and is available (item P-105) for $5.95 plus $2.50 postage.

John Pope. MAP OF THE TERRITORY OF MINNESOTA 1849. 25 x 28, Item M-45. $4.50

Joseph N. Niccollet. HYDROLOGICAL BASIN OF THE UPPER MISSISSIPPI RIVER 1843. 33 x 39, Item M-24. $5.95

S. Augustus Mitchell, Jr. MINNESOTA AND DACOTAH 1860. 15 x 18, Item M-65. $4.50, postage is $2.50 per order (Thanks to Jon L. Walstrom for this contribution)

Philadelphia Inquirer Map & Guide to Center City Philadelphia and Surrounding Areas. The map is four-color, three-dimensional images, indices; in English and in eight foreign languages. The guidebook is 48-pages with a pocket for the map. from the Philadelphia Inquirer, June 25, 1993. $7.99 at bookstores and newsstands. (njb)

NEW CATALOGUE

Catalogue of Maps and Atlases of the ex-USSR, Cartographic Division, Four One Company Ltd., 523 Hamilton Road, London, Ontario Canada N5Z 1S3, Tel: 519-433-1351, FAX 519-433-5903. Dated December 1993, this is their third catalogue of maps, charts and atlases.
# PRELIMINARY SCHEDULE OF MAGERT ACTIVITIES IN MIAMI, JUNE 1994

## Friday, June 24
- **8:00-10:00pm**: Executive Board I/Welcome Reception

## Saturday, June 25
- **9:30-11:00am**: Publications I
- **11:30-12:30pm**: Cataloging and Classification
- **11:30-12:30pm**: GeoTech
- **2:00-4:00pm**: PROGRAM I: Mapping the Everglades
- **4:30-5:30pm**: Research Libraries Collection Management Group
- **4:30-5:30pm**: Education
- **4:30-5:30pm**: Membership

## Sunday, June 26
- **8:00-11:00am**: SIGIS Task Force
- **11:30-12:30pm**: MAGERT/CCS/ALECTS Discussion Group
- **11:30-12:30pm**: Miscellaneous Committees Joint Meeting (any committee not meeting at another time that needs to meet)
- **2:00-4:00pm**: Publications II
- **2:00-4:00pm**: PROGRAM II: X, The Unknown Meaning, I may still be able to pull something together here, so reserved a slot, but don't bet on it.
- **4:30-5:30pm**: Executive Board II

## Monday, June 27
- **8:00-9:00am**: Executive Board III [Expect to run over time]
- **9:30-11:00am**: Publications III
- **9:30-12:30pm**: PROGRAM III: Basic Map Cataloging for Non-Map Librarians
- **11:30-12:30pm**: CUAC
- **2:00-4:00pm**: General Membership
Notes on schedule:

This schedule is really packed because I had some sound advice to get us "into and out of Miami in as short a time as possible." Thus, we can be out by 4:00pm Monday. I know many members will want to take advantage of being in Florida and will want a field trip. I do intend to plan one; it is not planned yet; it will be on Tuesday June 28, provided...

MAGERT HOTEL FOR MIAMI

The Executive Board of MAGERT met electronically and has decided that in consideration of the safety of the members of MAGERT there will be NO MAGERT hotel in Miami. The Exec Board thinks that it will be better for MAGERT members to stay in ALA conference hotels so that members can take advantage of the scheduled shuttle bus services and the theory "Safety in numbers." ALA recently announced via LJ Hotline that there will be extended evening shuttle bus services, which will include additional stops such as restaurants.

Still, I know that MAGERT members would like the sociability and convenience of being near each other, and to that end I talked to Conference Services in Chicago and asked if all MAGERT members could be put in the same hotel by the Housing Bureau if they so identified themselves. As you may imagine, this idea was beyond their conceptual capabilities. They asked if I could fax them immediately a list of the names of all the members of MAGERT who would be attending Annual, and then they couldn't promise anything. So, I have another idea...

As Chair, I suggest to the membership that people making reservations for Miami use the Official ALA Housing Request Form provided in the January issue of American Libraries (which I received on Jan 25--I have a feeling there's a lot of inconsistency in the delivery of this issue), and put down as their hotel choices the following:

1> Holiday Inn-Oceanside (#15)
2> Shelborne Beach Hotel (#32)

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In you check the map in AL, you'll see that the first four hotels I've listed are in a bunch between the Convention Center/Art Deco District and the Fontainebleau, which is the headquarters hotel. The last two I listed are on either side of the Fontainebleau. (If you can stay at the Fontainebleau, you must have some expense account). We can at least try to all be in the same area, on a shuttle bus route, and in Miami Beach rather than Miami downtown.

I figure it either of two ways:
1. It's already too late, or,
2. Since so many people are saying they won't go, everything will work like a charm.

FROM THE CHAIR

I think we can see a bit of the future right here in MAGERT Land. There's concern already for people who don't have access to the Information Super-Highway, and I can see this clearly when I post MAGERT business on the Maps-L electronic mail listserver, because I know that there a lot of members who don't have access to Maps-L. Thus, as you read this in baseline, a lot of people have already seen the Annual Conference schedule and the MAGERT Hotel information electronically, and I'm sorry if that's caused you a problem. I've asked our members who do read Maps-L to keep in mind all our colleagues who don't, and to pass this information on through word-of-mouth. Until recently, I didn't have access to Maps-L, and if you don't, I sympathize greatly with you. On the other hand, sometimes it's better if people can't reach you....

Remember what the Klingon High Counsel called the future: "The undiscovered country."

Now it's off to Miami!
April
BASE LINE SURVEY

In keeping with the comments that April made in her column, I'd like to ask all of the readers of base line to complete the following survey and mail it to me at the following address:

Nan Butkovich
Physical Sciences Library
230 Davey Laboratory
Penn State University
University Park, PA 16802

It seems that not only do we require more information, but we require it more quickly than ever before. To that end, the Publications Committee has been discussing various options for conveying information to the membership. The most frequently mentioned option is an electronic format. I hope that you'll take a few minutes and complete these questions. Your responses will help us determine the future of base line.

We suspect that a fairly large percentage of the MAGERT membership does not have access to the Internet. In order to determine the validity of this supposition, we are asking the following questions. Please feel free to omit answering any questions which you are not comfortable with answering.

1. Do you have access to the Internet? ____Yes ____No

2. Do you use e-mail? ____Yes ____No

3. Do you subscribe to any of the map listservs? ____Yes ____No

   If yes, which one(s)?

4. Are you familiar with using FTP? ____Yes ____No

Comments:

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The next block of questions concerns your preference in distribution format for base line. Again, please feel free to omit any questions with which you feel uncomfortable.

5. How would you prefer to receive base line? (If more than one option is acceptable, please rank them with 1 being the most preferred delivery method.)
   - The way I receive it now (in print, 6 times a year.)
   - In print, more frequently. How frequently?
   - In print, less frequently. How frequently?
   - Via a direct e-mail mailing (an electronic newsletter issued on a regular schedule.)
   - Via a listserv.
   - Via Gopher.
   - Other (please explain):

6. Do you subscribe to more than one map librarianship news magazine?  
   - Yes  
   - No  
   If so, which ones:

   If yes, do you find that much of the information contained in them is duplicated?  
   - Yes  
   - No  

7. Would you be interested in receiving base line via the Internet?  
   - Yes  
   - No  

8. Would you be interested in receiving one combined newsletter via the Internet?  
   - Yes  
   - No  

Comments:

I want to emphasize that we are looking at various options. One of them is that more than one format of the information may be needed in order to best serve all the membership. Thank you for taking the time to complete this survey.
NEW BOOKS AND ATLASES


AND FROM THE EDITOR

Well, I've already had a lot to say this issue. I guess that this is as good a time as any to say that it's been fun being the Editor of base line. I hope that one of you will volunteer to take it over. I think that there are some interesting possibilities for it in the future. Give me a call if you want any information regarding the duties of Editor.

Next issue I'm going to start soliciting ideas for Philadelphia and for Chicago, so put on your thinking caps!

MISCELLANEOUS

The Summer 1993 issue of Geographic and Global Issues (v.3, no. 2) "contains a 16"x22" map of the New States of Central Asia, with an accompanying article about geographic and economic profiles. It also features articles and maps on the Iraq/Kuwait boundary, Eritrea, and microstates of Europe. There are also lists of successor states of the former Soviet Union, Nations of the world (as of August 26, 1993) and dependencies and areas of special sovereignty. This publication is produced by the U.S. Dept. of State's Bureau of Intelligence and Research. It is a depository item (SuDoc s1.119/4:3/2)." (JC)

"Frances M. Rickert, former map cataloger for the U.S. Geological Survey, is now owner of Rickert and Associates, a cataloging consulting firm, which specializes in map cataloging. Call or write for a free brochure. Rickert and
Dr. Catherine Delano Smith has been appointed Editor of Imago Mundi, the journal of the International Society for the History of Cartography. "She will co-edit the next volume (no.46) and take sole editorship for the 1995 volume. Professor Eila Campbell has been Editor since 1971 (vol. 25)." (TC)

The Trustees of the J.B. Harley Research Fellowships Fund have awarded three Fellowships to Dr. Mead T. Cain (New York) "The maps of the Society for the Diffusion of Useful Knowledge", Dr. Claire Lemoine-Isabeau (Musée Royal de l'Armée, Brussels) "Histoire de la cartographie du territoire belge", and Roger A. Starling (University of Toronto) "Topography and power: English Renaissance drama and the production of space 1580-1640". (TC)

"Roman Drazniowsky, Curator of the American Geographical Society Collection at the Golda Meir Library, University of Wisconsin-Milwaukee and Editor of Current Geographical Publications, retired 1 July, after 31 years of service. Dr. Drazniowsky's association with the AGS Collection dates back to 1962, and he played a vital role in transferring the Society's library and map collections to UW-Milwaukee in 1978." (JK)

CORRECTIONS AND COMMENTS

In the April 1993 issue (page 9), please note that NEMO met at Rutgers University in New Brunswick, NJ, not Princeton, NJ. (SG)

Jim Coombs asks everyone to PLEASE SEND ADDRESS CORRECTIONS to ALA and not to him. He gets an updated mailing list for each issue from ALA Headquarters.
THE MAP LIBRARY IN TRANSITION

A Joint Conference Sponsored by the Congress of Cartographic Information Specialists Associations and the Geography and Map Division of the Library of Congress

October 18 & 19, 1993

Report from contributions by Edward H. Dahl [ED], Kathryn Womble [KW], Marsha Selmer [MS], Cathy Moulder [CMo], Trudy Bodak [TB], Carol Marley [CMa], and Alice Hudson [AH] compiled by Alberta Auringer Wood.

The organizations participating in the Congress of Cartographic Information Specialists Associations are the American Congress on Surveying and Mapping, the Association of Canadian Map Libraries and Archives, the Committee of Southeast Map Librarians of the Association of American Geographers, the Geography and Map Division of the Special Libraries Association, the International Society of Curators of Early Maps, the Map and Geography Round Table of the American Library Association, the Map Online Users' Group, the North American Cartographic Information Society, the Northeast Map Organization, and the Western Association of Map Libraries.

The meeting opened with long lines at a registration desk as over 100 attendees picked up their badges and final program. Fortunately, there were several people helping with this operation, and it was completed in time to start the meeting only a little bit off schedule.

Ralph Ehrenberg, Chief of the Geography and Map Division introduced Dr. Deanna Marcum, Director, Public Services, Collections Management 1 [Special Collections], Library of Congress, who welcomed the participants to the CCISA conference and thanked both the organizers and sponsors. Dr. Marcum mentioned the vigorous support of the Librarian of Congress, Dr. James Billington, for the concept of an "electronic library" which helps bring about "a library without walls." A major initiative to this end was the Library of Congress (LC) American memory project, launched in 1989. This is an ongoing project which places library materials in electronic form on optical disk. Dr. Marcum also described the LC's demonstration laboratory in which people can look at various technologies which have possible relevance to libraries. She also noted that the Geography and Map Division had in the past year created a GIS specialist position, now occupied by Gary Fitzpatrick.
Gary Fitzpatrick (co-chair of the organizing committee) followed with a few announcements and outlined the events to take place during the next two days.

Then Dr. Christopher Baruth, American Geographical Society Collection, University of Wisconsin, Milwaukee (co-chair of the organizing committee), who gave an overview of the conference goals and program. Chris noted that this conference was an outgrowth of a meeting that was held five years ago in Chicago of representatives from the sponsoring organizations. At this meeting two of the expressed goals were to encourage greater communication which was accomplished by the institution of MAPS-L by Johnnie Sutherland of the University of Georgia and to hold an international meeting which is occurring over these two days. What Baruth called "the digital revolution in cartography" challenges map librarianship. Information areas in libraries which are not well understood and have high space requirements are vulnerable. Digital cartography requires more advanced equipment, with higher associated costs and training. The aim of the conference was to provide map librarians with information on this revolution and to work towards an accord on needs and service delivery. [ED, CMo]

The first session entitled "Where Map Libraries are Today and Where They Are Headed" was moderated by Dr. Baruth with Colleen Beard of Brock University as the first speaker. A main challenge for map librarians is to create a reputation as experts about digital spatial data. After investigating options for her own library, she sees the functions of the map library as acquiring and providing digital data, electronic atlases, and custom maps or maps on demand, and providing some means for geographic information system (GIS) analysis. Map librarians must decide the types of data to collect for their users and the methods of access they will use, and they must gain the skills and knowledge to work with different digital formats, the offloading of data files and some level of geographic data analysis using GIS.

Deborah Lords, University of Utah, asked whether there is a future for map librarians. She is concerned that library education is not keeping up with new technologies available, such as Gopher and Archie. She believes that the American Library Association should be setting standards for library education. Ms. Lords pointed out her concern about the "envelope of disenfranchisement" -- those who do not have access to any of the new technologies. If librarians do not decide how to handle the challenges posed by new technologies, someone else will, and they will probably charge fees to their users. Librarians must actively move forward. "Stagnation is death."

Thornton P. (Patrick) McGlamery from the University of Connecticut spoke about map libraries as places. He asked the question, "Will anyone come to the map library anymore?" He encourages map librarians to begin thinking in terms of spatial data rather than maps. We can view maps as arti
facts (form) or as carriers of spatial data (function). Mr. McGlamery found
some useful ways of thinking about the transition from paper to electronic data
in Michael Buckland's book Redesigning Library Services. System networking
means the map library is not just in the basement anymore. A local area
network (LAN) becomes a file server on another network. An analogy Mr.
McGlamery uses in describing two computer hard drives in his collection is
that they are like map cases. They store a lot of maps, they cost about the
same as a map case and they're square like a map case!

People will come to the map library more for training than for data.
Libraries will continue their role of providing cataloging and location devices
for data and continue to provide reference service. Sophisticated data users will
demand easy ways to get the data they need. Less sophisticated users will need
training. How well we describe the data and point to it has been a traditional
role for the librarian and will continue to be in the future.

Gary North of the U.S. Geological Survey spoke next. Data is coming
to map libraries on CD-ROM and this trend will continue. The Government
Printing Office (GPO) must decide how to reproduce and distribute large quan-
tities of this data to the library community. Data producers should work on
ways to improve file structures for data and some government/private industry
creative research and development agreements have begun in order to do this.
New electronic metadata systems are emerging. Map librarians should think
about plotting their collections graphically in addition to traditional descriptive
cataloging. Standards must be set as more joint data production projects go
forward. Map librarians must anticipate and plan for changes such as not
receiving paper maps anymore, for changes at the GPO, and for people access-
ing information from their homes. Changes in the electronic information world
have just begun. Librarians must define their role and not let it be defined for
them by engineers and scientists.

Johnnie Sutherland at the University of Georgia envisions his map
library installing a LAN hardwired to the campus mainframe with 4 worksta-
tions, CD-ROM drivers, 2 gigabytes of hard disk space and laser printers. As
map librarians, we will use set ups like this to access hundreds of different sites
for data. Mr. Sutherland will be a spatial data specialist, who will train users
on GIS software and how to download data. He predicts that other specialists
will continue to need help finding the data they need. He will employ a scanner
system to make his large paper collection more useful for those working with
digital data. Each library must determine and implement what level of service it
can afford.

Linda Zellmer, University of Wyoming, is planning a new library and
has developed a list of questions she is using to move forward in utilizing
digital data in the map and earth science library. The choice of a library GIS
should be based on the library's goals. A full GIS system would provide the
information and technology needed to use and analyze all types of spatial data.
A partial system would provide access to spatial data in all forms without analysis capabilities. Some criteria for selecting a library GIS are that it be user friendly, capable of being modified easily to accommodate new data sets, have a reasonable cost and be able to perform library-related functions. Research opportunities in this area include testing various systems against the criteria developed to select them, developing user friendly interfaces so that patrons can use the system with little assistance from library personnel and developing library-related applications. [KW]

After a short break, Diana Rivera of Michigan State University chaired the session on "Reports on Initiatives". This was begun by Alberta Wood who reported on the "GIS in Libraries Survey" that had been organized by the Congress of Cartographic Information Specialist Associations (CCISA) and co-funded by the Association of Canadian Map Libraries and Archives and the North American Cartographic Information Society. The survey was undertaken to see how well libraries were handling GIS and digital data and to provide a benchmark for future studies. Most respondents were from American academic libraries, and of the total responding, only 46 percent held digital data. The most frequently cited reason for the absence of digital data was the lack of funds. For additional information on this survey see the archives of Maps-L and the reports published in the journals of map librarianship.

Four initiatives currently underway at the Library of Congress, Geography and Map Division, were discussed by Ralph Ehrenberg, Division Chief. They are: 1) Establish a GIS reference capability through the creation of a GIS specialist position and the acquisition of GIS software and supporting hardware. This will allow the Division to create maps on demand for the U.S. Congress. 2) Use GIS technology to create graphic indexes for the over two million sheets in the Division's map series collection that lack sheet level control, and integrate the graphic and bibliographic control of the collections. 3) Assist in establishing and distributing standards for digital data and metadata by participating in the work of the federal interagency working group charged to deal with these data. 4) Establish a Center for GIS and move the Division from a paper to an electronic environment in its service to users beyond its Congressional constituency.

CCISA coordinator, Christopher Baruth, noted the associations and representatives currently participating in the CCISA. As a non-organization, and therefore, not funded, the CCISA must depend on its constituent groups for future direction. Recent initiatives included the GIS in Libraries Survey and the planning for this conference.

Larry Carver discussed the goals of the "ARL Geographic Literacy Project," a joint initiative of the Association of Research Libraries (ARL) and the Environmental Systems Research Institute (ESRI), which is designed to educate and equip libraries in the provision of spatially referenced data in all formats. Sixty-seven American libraries were accepted in the first two phases
of the program; negotiations for the third phase in Canada are underway. Participating libraries must own the hardware needed to support data sets from companies such as ESRI, GDT, WESSEX, DEC, and National Decision Systems. [MS]

After the lunch break, Dr. Deanna Marcum chaired the Keynote Speakers session. The first speaker was David Beddoe, Regional Manager, Washington Office, ESRI, Inc., who spoke on "Georeferencing and Mapping of Non-cartographic Information". Beddoe's topic was the implications of using GIS on data which formerly would not have been considered cartographic. Converging technologies, the combination of network computing and GIS, open new vistas and extend what information can be considered geographic. He emphasized that GIS is very multimedia now—data can be conventional maps, images or georeferenced data sets. Beddoe estimated that the U.S. federal government has approximately 12,000 databases. Forces influencing further GIS development are: privacy, free public access, cost recovery, copyright and commercial use. Marketing is an exciting growth area for GIS, as businesses use the technology to make better decisions and track user needs. Beddoe predicted that the map will become the index and GIS the front end to locating and using all spatial data. GIS users will geographically assemble data from all sources. His vision is that GIS belongs in every library, and eventually preschoolers will be accessing geographical information.

His talk was followed by "Paper Maps in an Electronic World" by Barbara Fine, President, The Map Store, Inc., Washington, DC. Fine spoke as the representative of international map vendors and addressed the future of the paper map. Basically, she felt the paper product will disappear by the beginning of the 21st century. Computer games have now replaced commercial maps as learning tools. Quality and resolution are not yet the same but will be soon. In the past five years, every commercial producer of road maps has gone for the ease, speed and economy of electronically generated versions. Ten years ago, the "clear type" line of products was dominant for business and reference use; today most lines have been discontinued and made obsolete by the microcomputer. Fine concluded that the commercial map business is in decline, and that many vendors are becoming antiquarian map dealers instead.

The third keynote address was on "Geographic Information in the Research Library of the 21st Century" by Larry Carver, Map and Imagery Laboratory, University of California, Santa Barbara. Carver called upon experiences in forming corporate partnerships to develop the Map and Imagery Laboratory, in order to formulate his vision of the role of GIS in the research library of the future. GIS hold the "seeds for the electronic library of the future". He predicted that within 10 years the speed of development in GIS will be vastly faster than in other technologies, and the present bottlenecks on the "national electronic information highway" to dense and huge datasets will be removed. Also in 10 years, data compression and exchange will be vastly
improved by fibre optic distribution cables. Libraries must redefine their services to accommodate these developments. There will be no hours of service, as information will always be available. The information specialist will require new kinds of expertise, and teams will be necessary to provide an interface for users of digital data. Internet is at present very ad hoc; libraries can provide better defined access and standards. Permanent access is needed but not necessarily ownership, and libraries should take responsibility for unique data rather than duplicating holdings. Libraries fit into the "big business" of information delivery in terms of consistency and standards, and responsibility for information heritage. Research libraries must consider cost recovery as a method of providing service to non-primary clients. Adaptability is not prevalent in this community, but vision is essential now for survival. Carver advocates that we help each other, pool resources, and identify special collections for preservation and cost sharing. In the future it will not matter where data resides, and we must work with systems designers to develop flexible systems locally while also taking advantage of distant resources. Map librarians must create a technical support group to evaluate, test, produce and teach, but from the information and library perspective rather than from that of the vendor.

The last keynote was by Dr. Ron Abler, Executive Director, Association of American Geographers, who spoke on the "Essential Skills for GIS Competency in the Year 2000". Abler talked about GIS curriculum necessary to prepare students for entry into a $15 million rapid growth industry. His research indicates that emphasis should be on geography and general attributes. Most current curricula offer a single GIS course, one per year, with no prerequisites, emphasis on software training and digitizing. As recently as 5 years ago, there were no journals and no courses. Abler expects gradual abandonment of the teaching of specific software, with curricula focus changing to manipulation, analysis, decision making and other managerial emphases. There will be more education, less training, more emphasis on analytical uses, map design, forecasting skills and ethical issues. Abler described this as GI "Science" rather than "Systems". He noted that training in network navigation will be essential for GIS in 10 years. [CMo]

On Tuesday morning, October 19th, the first session was chaired by Ralph Ehrenberg on "The Federal Geographic Data Committee and the Federal Depository Program: Prospects for the Map Library of the Future." The first speaker was Michael Domaratz, Executive Secretary, Federal Geographic Data Committee (FGDC), USGS, who opened this session by giving a review and status report of the activities of FGDC, such as establishing a national spatial data infrastructure. A copy of the FGDC newsletter issue 2, Summer 1993, was distributed at the conference, and it includes an outline of these activities. FGDC newsletters are available by email request to gdc@usgs.gov.
He was followed by Elizabeth Mangan, Head, Data Preparation and Files Maintenance Unit, Geography and Map Division, Library of Congress, who is on the FGDC Standards Working Group for developing the metadata standards. She described the work of the committee, such as the distribution to various librarians of the contents standards from which they received two feet thick worth of pages of comments. She felt that the description should be independent of the form or media. She noted that there were at least ten issues unresolved. The FGDC newsletter issue 2, Summer 1993 also provides more information about the Spatial Metadata Standard.

The next speaker, Sheila McGarr, Chief, Depository Program, Government Printing Office, addressed the GPO’s role in the future with respect to map deposits and the difficult choices that have to be made in times of downsizing and economic constraints. There are 53 full deposit libraries in the U.S. and hundreds of partial depositories. All must make the deposit collection publicly available and provide user assistance; the program is based on the principle that the public has a right to information which the government has collected. McGarr indicated that GPO is a distributor rather than a publisher, and has no influence over format. At present, 60% of the information they distribute is microfiche and 1% is digital. CD ROM is becoming the medium of choice for spatial data. The system configuration being recommended for USGS data is: 486 PC, 4mb RAM, GIS software, plotter. Libraries may only be able to select the "Digital Ortho Photo Quad" for their state. Reinventing Support Services #2 recommends that GPO be an executive agency. GSA would then handle printing and the Superintendent of Documents would go to the Library of Congress. With this situation, it was difficult to tell what GPO’s role would be.

Larry Carbaugh, Chief of Special Information Products, Data User Services Division, Bureau of the Census, followed up on Sheila’s theme about the kinds of decisions and choices that must be made and future requirements for census data products. He emphasized that they need input from users. He pointed out that they had produced 10,000 block level maps in 1980 and none in 1990 as they developed digital files. All maps are now electronic and plotted on demand. There are now over 150 commercial softwares available to access TIGER files. Carbaugh speculated that libraries will have to charge the user for map production and data analysis. A 486 is not fast enough; there is 100mb of data for Los Angeles county alone. The Bureau of Census will produce block face statistics in CD ROM format rather than microfiche.

Lastly, Millington Lockwood, Deputy Director, Joint NOAA/USGS, Office for Mapping Research, outlined the work being done at NOAA, and he addressed some concerns about digital data distribution. He commented that four or five agencies produce maps showing the land/water boundary with the oceans, and that the shoreline is "rarely coincident" on USGS and NOS charts. They are trying to coordinate with USGS to eliminate this problem. He
predicted that in less than ten years there will be no paper nautical charts! The Joint Office goal is a multipurpose GIS which supports many other applications, e.g. data visualization. Lockwood recommended Surfer software from Golden as useful for entry-level GIS, and commented that issues of data documentation were becoming more important than the data itself. CD ROM is the best distribution option at present, but the eventual goal is on-line real time update. Paper indexes to hydrographic charts are also gone, to be replaced by a prototype electronic bulletin board. Libraries should prepare to print on demand, as end users will still request paper copy. In principle, NOAA will maintain everything they produce, but how archival material will be treated in digital format is still unknown. [TB, AH, CMo]

After lunch there was a two hour block set aside for "Demonstrations of U.S. Federal Geographic Information Systems Applications". In one of the wrap-up sessions of the conference it was said that, "GIS is too important a topic to be left in the hands of the GIS industry." No more will it be, to judge by the informative GIS demonstrations for the map information community. Participating agencies included the Bureau of the Census, Department of Defense, Environmental Protection Agency and the Soil Conservation Service. We saw the capabilities of various systems including Grass, Intergraph, ArcInfo and a related product, ArcView 1.

The most compelling demonstration was undoubtedly that of EPA, in the cause of environmental equity and/or justice. A population and characterization tool has been developed for the use of various EPA agencies. The application sifts through EPA data sets and census information, to estimate and characterize populations in circular areas around locations such as hazardous waste sites, toxic release facilities and monitoring sites. Information can be viewed using Arc View or other tools, such as E Map. We looked at a minority neighbourhood (over 85% Afro-American) in Baltimore, Maryland, and what we saw was not healthy. In addition to environmental hazards, there was only one hospital in the area, and very few schools. We were able to find the congressional district lines and identify the congressman. We learned a lot about this neighbourhood in a short amount of time. It is clear that GIS technology is an incredibly powerful tool for assessing environmental quality.

The U.S. Army Corps of Engineers, in conjunction with its Construction Research Laboratory and the Cold Regions Research and Engineering Laboratory (CRREL), demonstrated a decision support system prototype for flood prediction and assessment. We looked at recent data from the Mississippi watershed. Another prototype application was a global commons decision support system for sensitive area route impacts. This particular study evaluated the environmental risks associated with different standard shipping routes, to transport a cargo of chemical weapons placed in West Germany
during the Cold War. Proposed destination, a "safe" incinerator site on an island in the Pacific.

Resources Automated Management System (RAMS) currently maintains in its GIS approximately fifty data layers for the Patuxent River Naval Air Station in Maryland and the Chesapeake Bay region. It supports users with responsibilities for environmental protection, natural and cultural resources preservation, security, emergency response, disaster preparedness, range and aviation safety, and facilities management. Edward Air Force Base demonstrated a siting system for the base, which also includes environmental layers.

We finished off with the Mill Creek Project, Walla Walla District, Washington, the first water resources project in the U.S. Army Corps of Engineers to fully use a GIS. A complete information system has been constructed for Mill Creek, which can be used at different scales and in different combinations for synthesis, analysis, display and preservation by all agencies within the district. Data has been used, for example, by the Hydrology Branch, Real Estate Division, as well as by members of the public like the Camp Fire Girls.

If these demonstrations are typical of what is going on out in the "real" world, then GIS is going public, and quickly at that. The map information community is facing a real challenge in disseminating this information. I hope that we are in the right place at the right time to make a significant contribution in getting GIS technology to the people, and that things will not be left in the hands of the GIS industry! [CMa]

To conclude the business portion of the conference, Edward Dahl, National Archives of Canada, chaired the "Reports from Discussion Groups and Open Microphone". The first to report was Joan McKean of Education Affairs Division of NOAA who had chaired the group on "Toward Defining Training and Education Strategies for Map Librarians". There were 16 attendees. The areas of concern were: a) access, b) role of librarians, and c) budget considerations. Some of the highlights were: Librarians are the information brokers and advocates for the public interest. Librarians need to illuminate and make careers more relevant; do homework, learn the jargon and concepts, develop a knowledge base, read the literature, take a course. Offer to coordinate a GIS group on campus or in your community schools. Track library schools and get them to update the curriculum. The group summation was that "GIS is too important to society to leave it to the GIS industry".

Melissa Lamont of the University of Connecticut was the discussion leader for "Communicating with Library Directors about GIS, Remote Sensing and the Map Library". Diana Rivera, Michigan State University, reported for the group. There were 19 attendees. She reported five concerns: 1) lack of attention and funding for map collections, 2) downsizing of staff and space
problems, 3) explaining GIS to Directors, 4) opposition to GIS in Library, and 5) defining level of library services. Solutions suggested included networking among ourselves, within the library and with academic departments on campus, and with state and local user groups; directors need to know wide use and applications and how they benefit the library. Improve visibility by using products already in house, such as StreetAtlas USA or PC Globe, in reports, presentations and displays. Report statistics on use of GIS, time may be important as reference questions are more complicated and time consuming. Communicate with the director the level of service you need. Present the library as middle ground between academic needs and information producers, a neutral resource to share; learn politics and cultivate GIS advocates. Communicate with the director regarding level of service to ensure support; specify and be able to explain why equipment is requested/needed, equipment requests should support a specific service. Get outside persons to communicate the value of your collection to your director; impress visiting dignitaries; bring in neutral parties to assess the collection’s strengths, worth, direction; use experiences of comparable and respected institutions.

Grace Welch of the University of Ottawa reported on "Toward Defining the Technical Requirements for a Map Library in the Year 2000" at which 12 were in attendance. This group arrived at no definitive answer. Technical changes come so fast that there is a constant need for new equipment which may be out of date in two years. Some libraries in this group did not have any equipment at all, while some were in the ARL GIS Literacy Project, and some were navigating the Internet. The group expected to see a lot fewer paper maps by the year 2001, and map libraries will require electronic equipment which will vary in quantity depending upon the funds available. One conclusion was that access is required to the Internet, or its successor, such as a data network using broadcast technology which requires large storage devices. One workstation is still one person access and can tie up the entire collections; multiple workstations and LANs are required. The CD-ROM is an interim and will disappear. The key to all our futures is metadata and making data easy to find. Improved Gopher systems are needed, as well as output devices, such as color printers and plotters. We will need a user foolproof interface. A basic workstation needs to be defined.

The last discussion group on "Inventories and Services: Looking at the Map Library of the Future" was reported by the discussion leader, Jim Minton, University of Tennessee. This was felt to include collection development and management and could only look ahead a maximum of five years. There should be a well defined mission statement to put in front of your administration which would include the digital aspect. Post your selection policies on the local Gopher. Develop ties with departments, regional and provincial/state agencies. Scan historical collections or provide special access tools for them. Develop policies on access and amount of time that can be spent using
equipment. Paper map acquisition will not be a primary concern. The services of reference, teaching, interlibrary loans, on-demand mapping will take more time and more terminals. If there is only one terminal, the whole collection is tied up by one user. Develop training handouts, manuals, and computer tutorials. Use Internet for the transfer of data via ILL. Determine who are your users (primary, secondary and tertiary) and allocate your time carefully.

Following this presentation, Ed moderated a question and answer session. Jim Minton commented on terminology, advocating "cartographic information center" versus "map library". Will there be map libraries in the future? User friendly interfaces make for a lot of choices. New functions as a result of new technology, what is a librarian? Johnnie Sutherland noted that there is an intensive use of time and map files to know what is out there. How much time should be spent training people to use the equipment or should you do it for them? Colleen Beard felt that the main function should be to acquire and provide access to information. Can we develop recommendations or specifications for workstations? Reference was made to an "Administrative Notes" which recommended a 486, 8-16 meg RAM, 100-200 meg hd. The library of the future: archival collections, search center, service center for those who need products. A mission statement is required which gives the concept of operations and is being forced by government agencies and map stores. Do we categorize users by the amount of time spent on them? Someone noted that 1/3 of users are outside agencies, such as environmental consulting firms, who are money making, and we should be charging them. It was mentioned that for data outside the U.S. there are heavy licensing fees; such costs will require fees. Some problems with reliable data were noted. As a model for the future, it was noted that for a library that is a patent depository, when the library administration advertised this fact, they were overrun by users. People come to the library as a neutral locale, but it will have to recover costs. Models are needed for charges for time, services. Charging for services means limiting services to the groups that can pay. If you find yourself spending 10 hours per week working for some company, you will develop a fee for service very fast. There was discussion of tools or analysis; teaching how to use or finding the data. It was felt that all special format libraries will face this soon. What are cartographic specialists to do? Redefine the profession? Create a new profession, philosophy and policies. Pat McGlamery noted that map collections are typically small units of much larger organizations, and we compete very poorly. For these issues we need the sanction of some national organizations to provide funds to study issues. For the first time, at this conference we had a variety of folk discussing in collegial fashion. We have been too splintered in individual professional organizations. Problems have been
given form for the first time here. Someone noted that librarians would become vendors and creators.

The discussions were interrupted for a short while by a fire alarm requiring leaving the building from our sixth floor location (a sprinkler head broke in the parking garage). At the end of the discussions, Chris Baruth thanked the other members of the steering committee (Gary Fitzpatrick, Patrick McGlamery, Johnnie Sutherland, and Alberta Wood), and noted that the level of discussion all along has brought out the best in all of us. The steering committee met over lunch, and we hope to see a publication or proceedings come out of this meeting, in addition to this report. There was discussion regarding another conference with the suggestions of having one in 2, 3 or 4 years time and perhaps on another theme. [AH,CMo]

The conference ended with a reception in the Montpelier Room sponsored by the Geography and Map Division of the Library of Congress. It had been an interesting and invigorating meeting.
IT WOULD BE HANDY FOR USERS IF I GIVE THESE MAPS THE SAME CLASSIFICATION NUMBER, BUT IF I FOLLOW THE RULES, I'LL HAVE TO CLASS THEM SEPARATELY...
HMM... I WONDER WHAT WOULD HAPPEN IF I DON'T FOLLOW THE RULES JUST THIS ONE TIME...