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PRESIDENT'S COLUMN

As is the case each year, this issue is largely devoted to the upcoming GSA/GIS Meeting. VP Barbara Haner and the Program Committee have been working hard, and it looks like we have a good line-up of papers and meetings.

This month, I'd like to share the preliminary results of the Membership Survey (remember that?) that was sent to each member with annual renewal forms. A more formal report (charts and graphs and all) may be more appropriate for distribution at the annual business meeting. We received 110 responses, all of them very enlightening. It certainly is true that we are a diverse group of people with diverse needs and opinions. The time everyone took to fill out the questionnaire and share views demonstrates real commitment. Thanks to all of you.

The first questions concerned publications. We started off with asking about the usefulness of the *Newsletter*. It

seems we have a winner here. Members commented on how much it keeps them in touch and informed. A later question asked if members would be interested in receiving the *Newsletter* electronically. 48% said "no", 38% said "Yes", the remainder did not answer or were undecided. The "nays" were more vocal in their comments, indicating that not all members have e-mail, or that they personally want/need paper copy the way it currently is. Of those willing to accept e-mail distribution, 41% were willing to forego the paper copy, 41% would accept slower delivery, and 18% would want no change in delivery of paper copy.

The usefulness of the Proceedings as a place to publish brought out concerns of some members; that publishing in a non-refereed volume is a problem for some, and that in order to be published there one needs to have attended the annual meeting which not everyone can do. Usefulness of the Proceedings as to content was rated higher, with indications that overall quality is good. I got the sense of an overall dilemma; that the Proceedings is generally considered a useful volume, but does not provide all members with a useful vehicle for publishing their own research.

The responses to the questions about the annual meeting were generally indicative that those who do attend find the meetings very useful. Many respondents (31%) did not answer the question or specifically stated that they cannot attend the meetings. Similar responses were given for all the specific events listed. The event receiving the most attention is the business meeting, or as one member comments: "useful, no; but necessary." I will provide an exact analysis later, and provide each committee chair with a list of the relevant comments which may help in planning for future meetings.

More than half (53%) of our responding members have attended a meeting since 1991, and 57% of the respondents have served in a GIS office or on a committee since 1991. This indicates a high participation rate on the part of the respondents, and an overall participation rate of 24%. When asked what GIS could do to make participation more feasible for members, most commented that

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The GIS Newsletter is published bi-monthly in February, April, June, August, October, and December by the Geoscience Information Society. Subscription to the Newsletter is \$40 per year and is included in the Society's annual membership dues. All correspondence regarding dues, membership status, and address changes should be directed to the GIS Secretary.

GIS members are encouraged to contribute materials for publication. Research articles and technical reports should be submitted to the Newsletter Advisory Board for review and possible publication. Information reports, officer and committee reports, publication notices, job announcements, and other news items should be submitted to the Receiving Editor.

Material for the October, 1994 issue of the GIS Newsletter should be received by the Receiving Editor no later than September 15, 1994. If possible please send materials on IBM-compatible disk (Wordstar 3.3, Wordperfect 5.1, or ASCII format) or by e-mail.

they are just too busy, or cannot get funding/time for participation. Some were interested in regional groups, and a few commented that GIS might consider affiliating with another library group, such as SLA or ALA, as that might mean a better chance of their participation.

The survey also asked about GIS being involved in more publications ventures. 44% of respondents gave a definite "yes". Those who expressed reservations cited concern as to whether we have the time and resources to take this on. However, the list of suggestions was impressive and stimulating, but too lengthy to enumerate here. More than half of respondents would like a new publication to take the form of a refereed journal or special paper. Almost 30% of the respondents indicated an interest in contributing to such a publication. My initial sense is that given the "right" vehicle, there are ideas and energy among the membership for such an undertaking.

There were many more valuable comments given which I will enumerate in a report, which I hope to have to the Board soon, so that we can focus on some of these issues at the annual meeting. But to echo the pervading sentiment of the survey respondents, if only I can find the time..... thank you all again for your participation!

VICE PRESIDENT'S COLUMN

Schedules should always be considered as moving targets and this has certainly been true for the schedule for the GIS Seattle meeting. There has been a major consolidation of many of our events into Sunday, Monday and Tuesday, October 23-25, 1994. Our poster session will still be on the Wednesday afternoon, but it has a strong Geographic Information Systems component. The field trip is still planned for Thursday, October 27. If you think Wednesday is free, then consider this the day to explore exciting happenings in the geosciences as the paleontologists expand on extraterrestrial events, impacts and extinctions culminating with an extraordinary evening program with the Shoemakers as they talk about the recent events in the Jupiter system.

This Newsletter contains the final GIS schedule including room locations. The exhibits will open Sunday evening October 22 with a Welcoming Reception from 5 pm to 8 pm. The GIS booth is #534 and will highlight geoscience resources on the Internet and also accessing oversize digital images including maps. Our reception is again in the conference hotel, the Sheraton, and close to the other alumni receptions which many of our members also attend.

PLEASE REMEMBER: If you wish to attend the GIS Luncheon and Awards, be sure to register on the

GIS 1994 ANNUAL MEETING GEOLOGICAL SOCIETY OF AMERICA SEATTLE, WA October 1994

Sunday, October 23, 1994

- 9 am - noon GIS 1994 Executive Board--Sheraton: East Ballroom A
- 1 pm - 2:45 pm GeoRef Workshop--Sheraton: West Ballroom B
- 3 pm - 5:00 pm GIS Database Forum--Sheraton: West Ballroom B

Monday, October 24, 1994

- 8:30 am - 11:30 am GIS Business Meeting--Sheraton: Grand Ballroom B
- 1 pm - 3:00 pm GIS Technical Session--Convention Center: Room 307-8
- 3:15 pm - 4:45 pm GIS Professional Issues Discussion--Sheraton: Grand Ballroom B
- 7 pm - 9 pm GIS Reception--Sheraton: Room 428

Tuesday, October 25, 1994

- 8 am - noon GIS Symposium: "Changing Gateways: the impact of technology on geoscience information exchange"--Convention Center: Room 307-8
- 12:15 pm - 2:00 pm GIS Luncheon and Awards--Sheraton: West Ballroom A
- 2:15 pm - 4:00 pm GIS Collection Development Issues Committee--Convention Center: Room 210
- 4:15 pm - 5:30 pm GeoRef Users' Group Meeting--Convention Center: Room 210
- Evening Reception at University of Washington Libraries

Wednesday, October 26, 1994

- 8:30 am - Noon GIS Executive Board--Sheraton: Room 426
- 1:30 pm - 5:30 pm GIS Poster Session--Convention Center

Thursday, October 27, 1994

- 8:30 am - 5:00 pm GIS Field Trip: Quakes and Quaffs of the Great Northwest

GSA registration form. Tickets will NOT be sold at the door.

Steve Hiller has invited GIS members to a reception on Tuesday, October 25 after the GeoRef Users Group Meeting hosted by the University of Washington Libraries. Details are to be found elsewhere in the Newsletter.

At the Joint Technical Planning Committee meeting in Boulder, I learnt that a record 2,800 abstracts have been submitted and on Tuesday, there will be 18 concurrent sessions, when normally only 16 are planned. There were 69 theme sessions proposed and 59 survived. More details of this meeting will be in the next issue, but planning is already well underway for the New Orleans Meeting and exciting proposals abound like trial electronic abstract submission and availability through a World Wide Web node at GSA. In this Newsletter issue you will find the abstracts for our Symposium, Technical Session, and Poster Session.

I look forward to seeing you all in Seattle and hope you will all take the opportunity to explore the Pacific Northwest.

SEATTLE MEETING NOTES

Collection Development Issues Committee Meeting

There will be presentations on "Science Monograph Publishing and Pricing Issues," by Celia Wagner, Approvals Manager, Blackwell North America, and on "Serial/Monograph Prices 1994," by Michael Noga and Steve Hiller. There will also be a discussion on "Use of Document Delivery to Supplement Local Collections." GIS members are encouraged to share their experiences with the use of expanded document delivery services to provide users with information resources not in the local collection. Of particular interest is use of such programs linked to serial cancellations.

Reception at the University of Washington

After three long days of meetings you deserve a break!

The University of Washington Libraries invites all GIS members and friends to a reception at the newly completed Physics-Astronomy Library, on Tuesday evening. The library is on the top floor of the Cesar Pelli designed Physics- Astronomy complex, and enjoys a terrific view of the Seattle area. One of Seattle's more unique restaurants, Ivar's Salmon House, is located just a ten- minute walk away. The University of Washington is a fifteen minute bus ride from downtown Seattle. There will also be rides offered to and from the University to downtown hotels.

MEMBER NEWS

DENA HANSON's new home phone number is 817-738-0646.

MICHAEL NOGA will be leaving UCLA in early October and will start his new job as Science Collection Manager at MIT soon thereafter.

Congratulations, Michael! The Pacific Section's loss will be New England's gain!

ANNOUNCEMENTS and PUBLICATIONS

Copies of the GIS 1993 Annual Proceedings (v. 24, Finding and Communicating Geoscience Information) have been shipped during the weeks of July 5-15. 1994 Membership Directories are included in the package. If GIS members have not yet received these, contact Lois Heiser, publications manager.

The GNIS CD should be available as a sales item from the USGS around the first of July. Price is set at \$57, which includes the licensing fee for the software.

FORTHCOMING MEETINGS

British Cartographic Society

The British Cartographic Society's 31st Annual Technical Symposium and Workshops for the Map Curators' and Teachers' Groups will be held 8-11 September 1994. The Map Curators' workshop will concentrate on digital mapping for libraries, maps on CD ROM, and related issues. The field trip 9 September will visit the Chatsworth House archive. The Teachers' Group Workshop will explore practical exercises. The BCS Symposium will celebrate the work of Gerhard Kremer, usually known by his latinised name, Mercator, upon the 400th anniversary of his death. The technical session 10 September, "Digital--Present and Future" will examine the changes in the use and organization of mapping as we move toward digital mapping. The technical session 3, "CD ROM--Atlas" will provide hands-on use of a wide variety of different CD-based cartographic products.

GEOSCIENCE INFORMATION SOCIETY

Symposium (S21): "Changing Gateways: the impact of technology on geoscience information exchange"

Tuesday, October 25, 8:00 am to Noon
Seattle Convention Center, Room 307-8

Barbara E. Haner and Marilyn Stark, presiding

8:00 Introduction

8:05 Charlotte R.M. Derksen and Jim O'Donnell: What we did/what we do/what we'll do: Geoscience Information Centers in a time of change.

8:35 Martha Andrews: From card catalog to computer file: how evolving technology has revolutionized production in the field of polar bibliography.

9:05 Stephen K. Park and Eric Lehmer: Development of earthquake information data bases by the Southern California Earthquake Center (SCEC).

9:35 Wendy Hassibe: The National Performance Review - re-invention of information dissemination at the USGS.

10:05 COFFEE BREAK

10:20 John M. Aaron: Publishing in a digital world: the past is the key to the future.

10:50 July C. Holoviak: Electronic journals; new headaches and old.

11:20 Julie Hallmark: The effects of technology on the information-seeking behavior of scientists.

11:50 DISCUSSION

GIS 1994 SYMPOSIUM ABSTRACTS

What we did/what we do/what we'll do: Geoscience Information Centers in a time of change.

DERKSEN, Charlotte R.M., Branner Earth Sciences Library and Map Collection, Stanford University, Stanford, CA 94305; O'DONNELL, Jim, Geology and Planetary Sciences Library, California Institute of Technology, Pasadena, CA 91125.

In 1970, we were worrying about shelf space for the *Bibliography and Index of Geology*. In 1975, we knew that, if there was a fire, the one item you saved was the shelflist. In 1980 we were worrying about how to fund online database searching and the 300 baud equipment to do it. We were worrying about doing the most precise searching imaginable and obsessing about the cost to patrons. The well of state survey gifts was beginning to run dry. In 1985 we were facing huge serial cancellations due to inflation and beginning to face the PC revolution and its attendant equipment needs. In 1990 we were still canceling journals and still wondering about equipment, this time for developing CD-ROM workstations for GeoRef or loading databases onto local mainframes for unlimited access.

We're swimming in CD-ROMs full of data (we're all eagerly awaiting the digital orthophotoquads) and we're still wondering how to access this stuff. We're trying to teach people how to use these things, just as we were, in 1975, trying to teach them how to search the *Bib and Index*. Geoscience information specialists have gone from worrying about filing backlogs for the card catalog to worrying the opac; from worrying about typing errors in subject headings to seeing keyword access being our users' preferred method of subject access, and we're still

trying to make interlibrary lending work. In 1994, we're still worrying about space, trying to figure out how to move databases off mainframes and onto servers, doing at least two jobs apiece, and looking rather bleakly toward the twenty-first century.

This is a review of the past twenty-five years in geoscience information, and a glimpse into the murky future for the next five or so.

From card catalog to computer file: how evolving technology has revolutionized production in the field of polar bibliography.

ANDREWS, Martha., Institute of Arctic and Alpine Research, University of Colorado, Boulder, CO 80309-450.

Of the half million online references pertaining to the polar regions, one third reflect research in the geosciences. Databases containing these references are, therefore, a very significant resource for scientists in these disciplines.

Polar regions libraries and information services have a long history of international cooperation directed toward effective service to their specialized clientele. Catalog cards, hard copy for printed indexes, and printed book catalogs were the material of early resource sharing. In the 1970s, these print services became online databases. Thus, they were in place (actually several different places!) when it became possible to bring them together on CD-ROM starting in 1989. In order to identify specific areas of overlap, and areas lacking coverage, polar regions databases on two CD-ROMs, *PolarPac* and *Arctic & Antarctic Regions*, have been analyzed by this author and

a plan has been formulated to distribute responsibilities for indexing and accessioning the polar regions literature found on these CD-ROMs.

Cooperation of this scope has been made possible by using Internet which provides "real time" access by database producers to each others files. Thus, institutional clientele can be served in a timely fashion, at the same time as the database producers work together to build an international bibliographic database with reduced duplication and enhanced coverage.

After placing past networking activities in context, this paper presents recent research results and the plan based on these results. This plan will maximize internationally available resources for provision of polar regions bibliographic information.

Development of earthquake information data bases by the Southern California Earthquake Center (SCEC).

PARK, Stephen K., and LEHMER, Eric, GIS Laboratory, SCEC, Dept. of Earth Sciences, University of California, Riverside, CA 92521.

A key task of the SCEC is the development of a four-dimensional (three spatial coordinates and time) model of the earthquake generation process in southern California. Such a model will help better assess the effects of future earthquakes and identify new hazards. A geographic information system (GIS) provides the framework for the construction of this Master Model and allows researchers to search for previously unrecognized relationships between diverse types of data. Incorporation of information such as maps, faults, geotechnical data, earthquake parameters, and topography have provided new challenges in database design and construction. For example, many sources of faults are available and the appropriate choice depends the potential use of the database. Scale, fault activity, and types of fault attributes depend upon on the research undertaken. It is generally not possible to design a database for all users, and the most successful applications have occurred when the researchers have been involved in all phases of database design and construction. However, the availability of these data in digital form permits misuse through lack of appreciation of the limits of such data. Additionally, dissemination of earthquake databases requires a review process much like peer review of journal articles but such procedures are still under development by SCEC.

The National Performance Review - re-invention of information dissemination at the USGS.

HASSIBE, Wendy R., U.S. Geological Survey, National Mapping Division RMMC, Bldg. 25, MS 508 Federal Center, Denver, CO 80225.

For many years, the distribution activity of the U.S. Geological Survey has been encumbered by an inadequate

computer system, paper-based, outmoded processes, cumbersome financial regulations, an inflexible work force restricted by classifications, inadequate product information and the inability to deliver products to customers in a timely manner.

The National Performance Review is an effort sponsored by the Vice President of the United States to provide for a more responsive, customer- focused federal government. A series of Reinvention Labs were established in July 1993 to begin specific projects identified by individual agencies. The Reinvention Lab team at the U.S. Geological Survey was comprised of representatives from all parts and levels of the organization from warehouse worker to program managers. The report prepared by this Team was accepted, and implementation is now underway.

The new Information Dissemination System focuses on today's business practices, incorporates technologies including product identification, electronic ordering and a new approach to providing for greatly improved customer access and response to their needs.

Publishing in a digital world: the past is the key to the future.

AARON, John M., U.S. Geological Survey, 904 National Center, Reston, VA 22092.

Publishing today stands poised between two revolutions: one (printing) is over 500 years old and nearly spent; the other (digital electronic) is little more than a decade old and barely underway. Although the technologic drivers are radically different, the two revolutions share many characteristics that provide some important clues about what to expect from publishing in a digital world. And, although it is much too early to predict with any confidence exactly where electronic publishing will take us, it is certain that the nature of publishing, communication, and information dissemination will change fundamentally. The change will have profound impacts on society that will equal or exceed that followed the shift from script to print after the invention of movable type and the printing press.

Major changes to expect (many are already underway) in publishing ventures include a shift from paper products to digital products; increased emphasis on the nature of digital information as a valuable, strategic asset; greatly increased emphasis on content and the needs of end-users; a large- scale redefinition of publishing processes and relationships; and a merging of the enabling technologies that guide publishing, entertainment, and communications and; hence, a blurring of the distinctions between these enterprises. These and many other changes will be linked to the evolution of computer and related technologies, but technology itself only provides the foundation that opens up the realm of possibilities. The greater challenge will lie in knowing what to do rather than in how to do it.

Electronic journals; new headaches and old.

HOLOVIK, Judy C., American Geophysical Union,
2000 Florida Ave., N.W., Washington, D.C.,

20009.

Planning an electronic journal has all the headaches of launching any print product and many more. Who will be the audience? How can authors be convinced to submit? What is the financial outlook? Are there any special characteristics of the production process to be considered? These are typical questions that society and commercial publishers have learned to address. The new media brings new questions. How do we go about reviewing material that cannot be printed? Must we limit reviewers to those who have the right software interface? For the first time we are forced to face the creation of a technological elitism in the dissemination of scientific journal literature. Will we be able to recover the cost of publication from subscription fees, particularly when the culture of users to date has been to consider electronic information as free? The advent of the serious electronic journal is further inhibited by other less evident obstacles. U.S. law is unclear in the area of copyright, and the issues of copyright protection become more complex as we move across national boundaries. There are significant financial risks in producing a new electronic journal. We cannot rely on our traditional partners to answer our questions as they are looking to position themselves for the information revolution. We are reluctant to share too much information with our competitors for fear they will be able to implement our ideas before we have a chance to capitalize on them. Even if we do find a group of like-minded collaborators,

we may need to worry about antitrust violations as we work together. It is little wonder that progress toward fully electronic publishing is moving more slowly than technology would seem to indicate is possible.

The effects of technology on the information-seeking behavior of scientists.

HALLMARK, Julie, Graduate School of Library and Information Science, The University of Texas at Austin, Austin, TX 78712.

Rapid, efficient access and retrieval of primary journal literature is the most basic information need of scientists.

Although variations occur among disciplines, traditionally, all scientists have relied chiefly on personal contacts, references in the literature, and browsing to learn of journal articles of interest. Retrieval of articles has overwhelmingly depended on library subscriptions; other important sources have been copies supplied by colleagues and personal subscriptions.

This study examines technological modifications of traditional information-seeking behavior as related to journal literature. Driven by serial price increases and subsequent cancellations by libraries, as well as inherent time lags in the traditional publication process and in interlibrary loan, new options offered through fax, digital transmission via the Internet, online search services, and electronic publishing seem both attractive and inevitable.

Resolution of such issues as cost and who will pay and enforced modification in activities such as browsing remain a challenge. Contrasts and comparisons of geoscience with other disciplines are noted.

GIS FINANCIAL REPORTS

Treasurer: Correction to 4th Quarter (Final) 1993 Financial Report

The report, published in the June 1994 newsletter, lists the last expense item as \$1,100 to open the new local account in Texas. This transaction was a transfer of funds rather than an expense item. Therefore, the bottom line should read:

Total Income	\$ 19,857.87
Total Expenses (Corrected)	\$ 20,280.59
Final Balances	
Checking (Corrected)	\$ 18,842.65
Bristol	\$ 727.86
Home Savings	\$ 9,704.60
TOTAL (Corrected)	\$ 29,275.11

-- Respectfully Submitted
Margy Walsh, Treasurer
Barbara DeFelice, past-Treasurer

Auditor

I have examined the 1993 annual financial report as submitted by the Treasurer, as well as documentation to support it. To the best of my knowledge and abilities, the figures presented are true and accurate statements as to the financial conditions of the Society, with one correction:

The transfer of \$1100 from the Bank of America account to the new local account in Texas was incorrectly posted as an expense. This has been corrected and will appear in Barbara's revision of the 1993 4th Quarter Financial Statement.

-- Respectfully submitted,
MaryAnn Whitney, GIS Auditor

GeoInfo V: The 5th International Conference on Geoscience Information.

Prague - June 20-23 1994.

reported by Barbara E. Haner

Prague, the ancient capital of Bohemia and today the capital of the Czech Republic was a fitting venue for Geo-Info V as it is situated on one of the major crossroads of Europe. It has always been an intellectual and cultural city and was an appropriate setting for lively discussions and information exchanges as we adapt to new challenges and expanding geoscience activities into new fields and environmental concerns. Twenty-two countries were represented and there were 81 participants with some bringing daughters, wives or husbands to avail themselves of the warm hospitality of our hosts at Geofond. Under the gracious leadership of Vladimer Shanelec and the untiring efforts of Jiri Hruska, the spirit of international cooperation was instilled into the meeting.

Papers presented at this meeting reflected the increasing use of technology and the power of computer assisted tools in our work. The cooperative effort of the Australians at both the national and state level was evident as they presented papers on metadata standards, pricing concerns when digital data is value added and the overall management of digital electronic databases. David Johnson highlighted both past and future developmental concerns of the "National Directory of Australia". Pricing problems and the transfer of geographically referenced data were presented by David Berman. The implications of the computerized map and its applications with respect to information policy, right-to-know, public information and cost recovery along with archival and preservation concerns were expressed by Kerry Smith.

Management and creation of databases were discussed in a series of papers including a presentation on the Lithuanian Geological Database by Julius Belickas and the Australian petroleum geoscience multimedia relational database. Expansion and organization of significant aeromagnetic survey material available for Africa was discussed by Sally Barritt. Jean Claude Bidet further broadened the interest in Africa by describing new trends in the creation of the bibliographic database for the super-continent Pangea. Such a database is not possible without the ongoing development of the multi-lingual thesaurus introduced by J. Gravensteijn. Earthquakes are constantly on a Californian's mind, but the organizational skills to create an effective informational database after the 1992 Roermond earthquake presented a new challenge to Dutch seismologists. Developing effective strategies to disseminate geological and environmental information in Denmark was discussed by Dorrit Jeppesen and Niels Nielson of the Geological Survey of Denmark. Total Quality Management (TQM) have become buzz words for corporate and library reorganizations. Marielle Doyon of the Canadian Geoscience Information Center presented a positive talk on the integration of the Geological Survey of Canada Library and the National Geoscan Center to

focus on the needs of clients and utilize technological advances to create an effective "one stop shopping" center for Canadian geoscience information as both traditional, digital electronic publishing and imagery technology are integrated into their services. Forty-eight abstracts were submitted and eleven papers were available as volume I of the contributed papers.

The field trip to the medieval mining town of Kutna Hora provided another insight into Bohemian role in European history. Kutna Hora meaning "mining mountain", literally was built over one of the richest silver deposits in Europe. The Royal Mint was founded here and Italian experts were summoned from Florence and produced the prazske grose (Prague Groschen), a silver coin regarded as sound currency throughout central Europe. Visiting this the Italian Court where the burghers sat, once the site of the mint, it was impressive to see the instructions given to these men as they entered, "to accomplish your official duty put oft all your passions, hate, hostility, force friendship, hypocrisy". In the late 15th and 16th centuries it was a strong challenger to Prague as the miners and mint brought prosperity and economic riches to this town 65 km east of Prague. Kutna Hora contributed to Bohemia's wealth and contributed to Prague's "Golden Age" which had begun with the accession of Charles IV in 1346. Charles fought at the Battle of Crecy in 1346, but wisely left the English and French to fight the Hundred Years' War and established Prague as a center of the Holy Roman Empire. He was responsible for building the "Nove Mesto" (New Town) and Charles University (Karlovinum) in 1348. Connecting the old and new town built on the two banks of the Vltava River is the cobbled, pedestrian Charles Bridge. For the attendees it seemed to become a nightly ritual to cross this bridge solving and discussing with new and old acquaintances common problems.

Prague may have been a small conference, but it was with great admiration that we watched our hosts adeptly change the program to accommodate speakers unable to be in Prague. This allowed for greater time for discussion and strengthening international ties which will benefit the international dissemination of geoscience information. The steering committee, Geofond and its staff are all to be recognized for overcoming many challenges and for creating an excellent conference which everyone enjoyed and will remember as a highlight of the summer of 1994.

John Kawula is preparing an "unofficial poster" for the GIS Reception on Monday evening in Seattle as we would all like to share with you many of our adventures in Europe this summer, an experience which as this society's representatives we all feel honoured to have been active participants.

GIS FIELD TRIP:

**FERMENTATION and FRAGMENTATION
or
QUAKES AND QUAFFS OF THE GREAT NORTHWEST
THURSDAY, OCTOBER 27, 1994
8:30 am - 5:00 pm**

COST: \$20.00

The Geoscience Information Society 1994 Field Trip will be presented in two parts. First, in the morning we'll review the earthquake hazards of the Cascadia subduction zone via a tour of the seismic lab at the University of Washington (we call it the "UDub"). Then, in the afternoon, we'll tour (and taste) at various wineries and micro-breweries in the greater Seattle area, in order to do serious networking, professional interfacing, and a thorough rehash of the weeks' events.

Seattle's weather in late October is unpredictable at best. It could be glorious, warm and clear, with startling, spectacular views of Mount Rainier, the Cascades and the Olympics, at every turn. Or, we could have solid gray skies, drizzle, or bone-chilling rain. Or all, in turn. Ah, Life in The Northwest! We recommend a sense of humor and natural fibers. (That's why we do flannel.)

SCHEDULE:

8:30 - 11:30 am - Tour of the UW Seismolab

12:00 - 5:00 (or so) - Lunch, and Networking-tour of the Wineries and Breweries.

Note: If you have a Thursday evening flight from Seattle-Tacoma International Airport, we can get you there--IF YOU LET US KNOW.

The Seismolab tour is FREE. Just show up. (The meeting place will be announced at the meeting.)

TO REGISTER:

Make your checks or money orders payable to the Geoscience Information Society. Mail that and this form (or any imitation) **BY OCTOBER 1** to: Connie Manson, Washington Division of Geology and Earth Resources, P.O. Box 47007, Olympia, WA 98504-7007. For more information, contact Connie Manson at (voice) 206/902-1472; (fax) 206/902-1785; (e-mail) cjmanson@u.washington.edu.

GIS SEATTLE FIELD TRIP CONFIRMATION

NAME: _____

ADDRESS: _____

TELEPHONE: _____

E-MAIL: _____

NUMBER OF PARTICIPANTS: _____

**GEOSCIENCE INFORMATION SOCIETY
1994 POSTER SESSION**

Wednesday, October 26, 1994 1:30 pm - 5:30 pm
Seattle Convention Center

- Anderson, Neal B., Ferderer, David A., Roberts, Clark A.: Inventory of land use restraints program (ILURP): Applications of geographic information systems in mineral assessments.
- Kaplinski, M.A., Best, D.M., Manone, M., Wilkerson, J.S.: Using a GIS to monitor sediment sources in the Colorado River, Grand Canyon, Arizona.
- Maley, Terry S. and Oberlindacher, Peter: Scientifically significant geologic features of the Upper Snake ecosystem, southern Idaho.

GIS 1994 POSTER SESSION ABSTRACTS

**Inventory of land use restraints program (ILURP):
Application of geographic information systems in
mineral assessments.**

ANDERSON, Neal B., FERDERER, David A.,

ROBERTS, Clark A., U.S. Bureau of Mines, Inter-
mountain Field Operations Center, P.O. Box 25086,
Bldg. 20, Denver Federal Center, Denver, CO 80225.

In recent years, numerous laws, regulations, and manage-
ment practices have been implemented to preserve or
protect a variety of nonmineral resource values. As a
consequence, Federal lands have been formally withdrawn
from mineral exploration and development. These actions
have led to concern that such restrictions may seriously
impair access to our Nation's mineral resources.

The U.S. Bureau of Mines is assessing the cumulative
impact of Federal land use decisions in 11 western states
and Alaska. Each study is composed of three parts: (1) an
inventory of Federal mineral ownership and mineral land
availability, (2) an assessment of areas having past mineral
production and/or known resources, and (3) a comparison
of Federal mineral availability with areas having past
mineral production and/or known mineral resources.

Geographic Information Systems (GIS) technology is
used to compile, analyze, and display the project results.
In addition this technology lends itself to other implica-
tions, including regional issue identification and analysis,
integrated resource management, binational border issues,
resource versus reserve analysis, and multiple use conflict
resolution.

**Using a GIS to monitor sediment resources in the
Colorado River, Grand Canyon, Arizona.**

KAPLINSKI, M.A., BEST, D.M., MANONE, M.,
WILKERSON, J.S., Geology Dept., Northern Arizona
University, Box 4099, Flagstaff, AZ 86011,
MAK@vishnu.glg.nau.edu; DEXTER, L., Dept. of
Geography, Northern Arizona University, Box 15016,
Flagstaff, AZ 86011; JACOBS, S., MAYES, H.B.,
WRIGHT, P., U.S. Bureau of Reclamation, Glen

Canyon Environmental Studies, Box 22459, Flagstaff,
AZ 86002-2459.

A GIS is being developed to assist monitoring of Glen
Canyon Dam impacts on the downstream ecosystem
through the Grand Canyon. The objectives of the GIS are
to provide a repository for historic and ongoing studies,
provide a common platform for the integration of existing
and future investigations, and to provide a database for
long-term monitoring of changes in the Grand Canyon
ecosystem.

A pilot GIS has been developed that extends from
River Mile (RM) 60 to 72. This stretch includes the
confluence of the Little Colorado River (LCR) and the
Colorado River (CR) at RM 61. The GIS database of the
river corridor includes coverages of topography, survey
control networks, gaging stations, surficial geology,
vegetation, endangered species habitat, small-scale study
locations (SL) and related tabular information.

Fluvial sediments deposited by the Colorado River are
of particular interest because they form the foundation of
the riparian ecosystem. For example, several SL's consist
of biannually repeated topographic, bathymetric, and sedi-
mentologic surveys. These surveys have been used at RM
62 to quantify the distribution and flux of sediments
before, during, and after a natural flooding event from the
LCR drainage. Macro programs have been developed that
automate the generation TIN models for each survey and
to perform hypsometric analysis and volumetric compari-
sons. These analyses provide important field tests of
flume experiments and numerically-derived models of
sand bar evolution in an eddy-dominated river system.
This pilot study demonstrates the utility of a GIS as both
an analytical tool and a data repository for the spatial
information generated in these investigations.

**Scientifically significant geologic features of the Upper
Snake Ecosystem, southern Idaho.**

MALEY, Terry S. and OBERLINDACHER, Peter,

Bureau of Land Management, 3380 Americana
Terrace, Boise ID 83706.

The Upper Snake Ecosystem, a land management area defined by drainage basins, embraces much of southern Idaho, including small portions of Nevada, Utah and Wyoming. The BLM has initiated a new nationwide program to inventory, describe and manage unique and scientifically significant geologic features. Because the Upper Snake Ecosystem has an exceptionally large number and variety of these features, many of which are nationally significant, it was selected to be used as an example to showcase and implement the program nationwide. Nationally significant features in this ecosystem include Mennan Buttes, the Big Wood River, Bruneau Sand Dunes, Thousand Springs, Bonneville flood features, Hagerman fossil beds, Silent City of Rocks, Shoshone Caves and the Great Rift and associated volcanic features.

First we will establish draft standards and procedures to inventory, describe, interpret and evaluate these geologic features. Knowledge acquired from applying this process to a large variety of sites will be used to later modify and finalize the inventory and management process. This process will provide case examples of each of the basic types of attractions that will be distributed throughout the bureau to be used as examples of nationwide consistency.

The management plans for each site will identify potential hazards and developmental potential for activities and uses as science education, interpretive centers, trails and pamphlets. The site reports will be abstracted for pertinent information to create a national listing that will be made available to research scientists and educators. These sites will also be evaluated to determine if they qualify for designations such as National Natural Landmarks, World Heritage Sites or represent sacred geography to American Indians.

REVIEWS

by
Linda Musser

In the article "A Model for Reviewing Academic Branch Libraries Based on ACRL Guidelines and Standards" (*College and Research Libraries*, v. 55, no. 4, July 1994, p. 342-354), the authors describe a process for conducting a branch library review. The emphasis of the article is on the process rather than the actual standards or criteria used in the review. The article "Criteria for Consolidation of Branch Libraries" (*College and Research Libraries*, v. 55, no. 6, June 1994, p. 348, 350, 378) outlines the criteria used as guidelines by the University of California-Berkeley for decisions related to the consolidation of branch libraries.

"Developing Information Gathering Skills in Geology Students Through Faculty-Librarian Collaboration" by Barbara Schloman and Rodney Feldmann (*Science and Technology Libraries*, v. 14, no. 2, Winter, p. 35-47) describes an instructional program designed to provide undergraduate students with information-gathering skills. An orientation program for graduate students is also described.

In the article "Collaborative Research Trends in Exploration Geophysics", D. K. Gupta (*Scientometrics*, v. 28, no. 3, p. 287-296) investigated the trends in single versus multiple authorship of articles over a 50 year period appearing in the journals *Geophysics* and *Geophysical Prospecting*. He found, not surprisingly, that collaborative work has increased.

There is a somewhat debatable statement made in the article by Mary Page and Melinda Ann Reagor titled "Library Processing Practices by Disciplines: Are Some Books More Equal Than Others?" (*Library Resources and Technical Services*, v. 38, no. 2, April 1994, p. 161-167). The authors studied the average cataloging time for books by discipline from a sample taken from the RLIN database. They found that science books were processed in 153 days versus 131 days for social science books and 100 days for books in the humanities. The debatable statement appears in the discussion of the scientific community's need for up-to-date information. They state "With obvious exceptions, such as geology and the history of science, new publications are the ones most valuable to researchers in the sciences." (p. 166). No references are given to support this statement. Does anyone want to respond to this statement? Share your thoughts on GEONET-L or send them directly to me.

Conference Report:
SIGGRAPH '94, Orlando, Florida, July 27-29, 1994
reported by
Susan Klimley
Columbia University

My calculations show that in the space of two and a half days at SIGGRAPH '94, I participated in more than 20 types of virtual reality. I wore helmets, put on polarizing "3-D" glasses and stood in holographic projections. I avoided having to shoot at things with a joy stick or my finger but I definitely found that the more of me that was "in" a virtual reality--head gear, location vest, gloves--the more exciting the experience. I watched examples of the top computer visualizations, ranging from the Listerine bottle that shoots arrows to an elegant geometric explanation of how to turn a sphere inside out. And I participated with hundreds of others in the electronic theater where, as an audience, we controlled the depth and speed of a submarine.

Now what's a nice librarian like me doing in a place like this? Well, in the kaleidoscopic muddle that my two and a half days became, there were things that indirectly, and occasionally directly, related to projects that people are undertaking or thinking about at Columbia. The panel on visualization of large abstract databases discussed how to bring big databases like CLIO into the world of computer visualization. I listened to game players (military and arcade) debate the relative merit of graphics vs. action as "determinants of immersivity in virtual reality" and there were conversations about "shallow content" in computer products. I hoped we wouldn't have to make a choice between description and story line. Some ideas and experiences were directly relevant to the work done at Lamont. In the VROOM (Virtual Reality Room), I encountered a data construction of the seafloor and salinity levels in Chesapeake Bay. And I was able to suggest to Lamont researchers who are developing access to large earth science databases for the public that virtual reality is "shipping" and should be examined as a display mechanism.

I heard an excellent trio of speakers on "Computer Graphics: Are we forcing people to evolve?" which included an amazingly articulate Terence McKenna of magic mushroom fame. The speakers felt emphatically that people were evolving because of computers and that this was just the latest example of evolution as a result of new ways of representing reality. One speaker used the example of perspective drawing. When perspective was introduced as an artistic technique, it was considered not only innovative but potentially dangerous. The fact that some people considered perspective alarming is interesting in light of the concern that is expressed by some people about the seductive nature of computer games.

And yet, as I flew back from SIGGRAPH, I reflected

back on the 1950's when television was extending its reach across the United States. I wondered if Columbia had then held a series of meetings, an Institute for Learning Technologies, to discuss how this new video technology could be integrated into the classroom. I wondered if everything I had seen on virtual reality technologies at SIGGRAPH would have as little effect on the teaching experience at Columbia -- and in higher education in general -- as television had.

In the end, I decided that visualization and virtual reality probably stood a better chance of becoming part of education at Columbia and beyond -- a much better chance than television ever had. For one thing, television was and is very much a "take what you get" proposition. Computers on the other hand are already a personalized tool for all sorts of Columbians. Crude visualizations are being used in just about all science departments at Columbia, for data manipulation if not for actual teaching. Researchers in the humanities are able to make classic texts very much their own. E-mail on the Internet is already interactive and recent developments in Mosaic, "home pages" and HTML have increased networkers' ability to shape network resources and make their own contributions in text, sound and motion.

I always think of what John Aaron once said in a talk that I attended on the future of scientific information--that we tend to overestimate how fast change will occur in the short run and underestimate how dramatic such change can occur in the long run. Certainly the computing power necessary for the most sophisticated visualizations that I saw is generally available in the entertainment industry and defense. And let's face it -- it is more likely that your first virtual reality experience will be in gaming and not a virtual reality experience of David Copperfield. But just as pieces of the technology are being used to visualize sea floor structure at Lamont, I think it is a good guess that these "working" visualizations will become more graphically sophisticated and then used in the classroom. The effect of the technology is just too compelling to resist, whether for profit in Hollywood or in our attempts to understand the world around us.

In working with scientific information for many people, I haven't had too many "magical" experiences. Certainly Anselm Spoerri, from MIT, who gave an interesting talk on his "information crystal" (a representation of the abstract information contained in digital libraries) didn't seem like a magician. But as this mad scientist-type started his presentation, he noted the hundreds of people in the audience, many of whom were wearing the buttons with red blinking lights given out by the vendors, and commented that looking at that sea of lights in the darkness was like being able to see the beating hearts of the audience. Who knows? Maybe information is moving into its magical phase.

GEOSCIENCE INFORMATION SOCIETY

Technical Session

Monday, October 24, 1 pm - 3:00 pm
Seattle Convention Center: Room 307-8

Joanne V. LeRud and Steve Hiller, presiding

- 1:00 pm Louise S. Zipp: Identifying core geologic research journals: a model for interlibrary collection development.
1:15 pm Richard D. Walker and Myeonghee Lee Ahn: An investigation into literature used by the water resources research community.
1:30 pm Nancy L. Blair: Improving bibliographical access to published geologic mapping by using online map indexes.
1:45 pm J. L. Brown: Cooperative geologic research in Canyonlands National Park, Utah.
2:00 pm Gordon S. Banholzer Jr.: The global change data and information system (GCDIS): the role of libraries in implementation and development.
2:15 pm E. A. Guinness, S. Slavney, T. C. Stein, and R. E. Arvidson: Access to large planetary geoscience databases.
2:30 pm Kym Pappathanasi-Fenton and William L. Hamilton: Development and use of GIS applications in the geosciences.
2:45 pm Julia Triplehorn: Information sources to help earth science students locate employment opportunities.

GIS 1994 TECHNICAL SESSION ABSTRACTS

Identifying core geologic research journals: A model for interlibrary cooperative collection development.

ZIPP, Louise S., Collection Development Dept., 204
Parks Library, Iowa State Univ., Ames, IA 50011.

While scientific journal prices continue to rise, the level of funding support for these materials in library collections declines. Many libraries undertake circulation and on-site use studies to identify journals for cancellation. The results tend not to be comparable because each study is designed to fit unique circumstances of information delivery. Subsequent decisions do not necessarily reflect the research needs of the primary user group. As research journal subscriptions are cancelled, cooperative collection development of these titles becomes necessary to restore breadth and depth of collections.

This study develops a means to identify core research journal titles used by the primary geologic user community in the three public universities in Iowa. For a three-year period, several products of research journal usage were analyzed; citations from faculty publications and grant proposals, citations from theses and dissertations, and citations from student publications. The core list was used to identify gaps and redundancies in the respective library collections. The titles were examined for attributes that would enable or hinder cooperative development agreements and document delivery. Core lists for each library collection were further analyzed within the scope of their respective consortial arrangements. Finally assumptions, methods, and results were evaluated for use in other disciplinary areas.

An investigation into literature used by the water resources research community.

WALKER, Richard D., School of Library and Information Studies, University of Wisconsin-Madison, Madison, WI 53706; AHN, Myeonghee Lee, 217-104
Gaepo Joogong Apt., Gaepo-dong, Gangnam-gu, Seoul, Korea.

The availability and use of water resources literature produced by federally sponsored research in general and by the Water Resources Research Institutes in particular was determined. By identifying where the research literature is published, who sponsored it, what publication types are used to record research findings, and to which subject fields within water resources it belongs, the literature used by the water resources community can be characterized. Indicators of quality include whether or not the research has received financial support and the source of that funding. (Financially supported research is a screened subset of the total body of research.) If funding implies quality and funding sources require research findings to be published, it will be useful to know if the target research community uses the published research results.

The first phase of this study investigated the use of literature as represented by the works cited by U.S. water resources personnel reporting their findings between January 1987 and June 1992 as included in *Selected Water Resources Abstracts*. The differences in use by those supported by U.S. federal funds and those not so supported are determined as are differences in publication types, institutional affiliations, and age of the cited literature. Descriptive statistics are also presented to further define the cited literature.

Improving bibliographical access to published geologic mapping by using online map indexes.

BLAIR, Nancy L., U.S. Geological Survey Library, 345 Middlefield Road, M.S. 955, Menlo Park, CA 94025.

Locating published mapping in earth science literature would be simplified by the availability of bibliographical databases which would allow the searcher to use maps to define areas for which mapping on any subject is needed or to search by standard mapping quadrangles.

During the past months, selected computer software programs have been compared using a sample geologic map index to find the best means of combining detailed bibliographical records for maps with geographic access and sorting by scale, date, and other fields of the citation. Other selection criteria included cost, availability, and compatibility with other computer environments so that retrieval data could be easily transported into another program.

Once software has been selected, the prototype geologic map index program will be used to set up related databases for locating publications on many subjects such as soils mapping, geophysical mapping, radiometric dating, trace element sampling, and well logs.

Cooperative geologic research in Canyonlands National Park, Utah.

BROWN, J.L., U.S. Geological Survey, Denver, CO 80225; DUBIEL, R.F., U.S. Geological Survey, Denver, CO 80225; SCHILLER, R.J., National Park Service, Denver, CO 80255.

Canyonlands National Park (CNP), Utah, is located in the Colorado Plateau, an elevated structural platform comprising an area of 150,000 sq miles. The structure within the Colorado Plateau is relatively simple: the mantle of sedimentary rocks is flat lying, folded by broad monoclines orientated north-northwest that are occasionally broken by faults. The park includes a portion of the Paradox Basin, a major northwest-southeast trending structural depression that formed during Middle Pennsylvanian time in association with uplift of the adjacent ancestral Rocky Mountains. The area exposes rocks from mid-Paleozoic to Cretaceous in age, but the Permian-Triassic interval is regarded as especially unusual because it represents an extreme paleoclimate that involved the global deposition of more red beds and evaporites than at any other geologic time. The study area contains large oil and gas reserves, unique species and habit resources, and spectacular geologic exposures of exceptional scenic and recreational value.

New models and principles have recently been developed in sedimentary sequence stratigraphy, and global plate tectonics. These models and techniques coupled with the acquisition and analyses of new data will improve our understanding of unresolved problems of Colorado Plateau/Canyonlands geology such as timing and extent of episodic transgressive and regressive events, ultimate

causes of regional tectonism, and refinement of the paleogeography of the Permian-Triassic interval.

Through a joint funding agreement between the U.S. Geological Survey (USGS) and the National Park Service (NPS), the CNP project was initiated in June 1994 and is scheduled for completion in December 1997. Because the USGS has ongoing geological research projects in the area, our objectives include combining resources to solve geologic and resource management problems, not only for the park, but for local, state, and national data users. The new USGS National Spatial Data Infrastructure (NSDI) initiative has critical need for new geologic framework data sets in digital format through Geographical Information Service (GIS) technology. Objectives include the development of procedures, standards, and data acquisition for base maps and GIS analysis. Results provide a basis for continued scientific research and assist in land planning and management tasks. The project will deliver a large-scale geologic survey of CNP, a national shared GIS data base, and research reports on topical studies. Ongoing geologic research provides greater detail on certain critical geologic relationships, exploration for additional geologic structures, and relating local deformational features to a regional scheme.

The Global Change Data and Information System (GCDIS): The role of libraries in implementation and development.

BANHOLZER, Gordon S., Jr., NASA/Goddard Space Flight Center, Library Services Branch, Greenbelt, MD 20771

The United States Global Change Research Program (USGCRP), in conjunction with major international programs, is expected to be the largest earth sciences research program ever conducted. There has been a growing recognition that the users of global change data will include not only primary research scientists, but students, teachers, policy makers, and others. To facilitate management, access and use of volumes of data and information that are expected to be generated by this effort over the next several decades, a Global Change Data and Information Systems (GCDIS) is being developed by an array of federal departments and agencies. The GCDIS will be a heterogeneous system, with each organization responsible for developing its own portion at its own pace, based on their role in the USGCRP. The initial phase of a NASA contribution to the GCDIS, version 1 of the Earth Observation System Data and Information System (EOSDIS) was made available via the Internet in April 1994.

The library community has played, and continues to establish, a formal role in planning the implementation and development of the GCDIS through the Library Information Subgroup, which is one of three sections of the Interagency Working Group on Data Management for Global Change (IWGDMGC).

Access to large planetary geoscience databases

GUINNESS, E. A., SLAVNEY, S., STEIN, T. C., and ARVIDSON, R.E., Dept. of Earth and Planetary Sciences, Washington Univ., St. Louis, MO 63130.

Recent planetary missions such as Magellan and Clementine have generated geologic datasets on the order of hundreds of gigabytes in volume. Planetary geoscientists require tools for accessing such large datasets rapidly and efficiently. The Planetary Data System (PDS) geoscience Node has established a system to provide interactive access via Internet to the large collection of Magellan data, using relational database, mass storage, and network technologies. The system includes a catalog and data ordering, distribution, browsing, and processing components. The Magellan catalog contains information about F-BIDRs (long thin radar images with up to 140 Mbytes per file), mosaicked image products, topography and radiometry data, and gravity line-of-sight acceleration data. A user may search for products based on location on planet, geographic feature, time, orbit, product ID, and instrument operating parameters. After locating products of interest, the user may place an order through the catalog. Mosaics, altimetry, and radiometry data are distributed on CD-ROMs. F-BIDRs and gravity data are stored on write once CDs in jukeboxes, and can be delivered electronically or on tape. Orders for such products are filled by an automated process that copies the data from a jukebox to magnetic disk and sends an electronic mail message to the user with instructions for retrieving files electronically via the Internet. Image products can also be selected and displayed on the user's local workstation before ordering. Sets of F-BIDRs can be combined into a regional mosaic, which can then be displayed and/or copied to the user's local workstation. Currently the system is being expanded to include lunar multispectral image, topography, and gravity data acquired by the Clementine mission.

Development & use of GIS applications in the geosciences.

PAPPATHANASI-FENTON, Kym; HAMILTON, Dr. William L., Department of Geography, Salem State College, 352 Lafayette St., Salem, MA 01970.

The use of Geographic Information Systems (GIS) technologies have increased in both number and format within specific geo-science specialties. The theme of this presentation is to detail, by way of lecture with slides, the use of GIS within the domain of the geosciences. Investigating which geo-science sub-fields are the predominant users of GIS technologies, how GIS is being used, and what has been the rate of GIS integration throughout the geosciences in the past ten years, will be examined and presented. Answers to these questions will allow GIS professionals and geoscientists to identify opportunities for further research and development. Methodology included

extensive manual and computer library searches developed as cascading categorization of GIS use and implementation. Initial results indicate that geoscience employ GIS for either descriptive geologic studies or explanations of how to establish a GIS for a geographic area but few are using it for advanced spatial analytic procedure.

Information sources to help earth science students locate employment opportunities.

TRIPLEHORN, Julia H., Librarian, Geophysical Institute, University of Alaska Fairbanks, P.O. Box 757320, Fairbanks, AK 99775-7320.

Where do you find job advertisements in earth science? This paper will provide information on key sources that students should check as they begin their employment search. These will include journals which list job opportunities in earth science and related disciplines, professional association services, newspapers, books, Internet and online databases. The above sources will cover employment in industry, teaching at all levels, federal, state and international opportunities. This information will be of interest to job seekers as well as employers placing advertisements.

A selected list of books on applying for jobs, resume writing and interviewing will supply basic information on these topics.

GIS FINANCIAL REPORTS

Included in this issue of the Newsletter is the report of the Society's finances for the first half of 1994.

The Executive Board approved the Society's first annual budget at the beginning of this year. Those figures now appear on the Financial Report under the headings "Budgeted" and represent anticipated income and expenses for the entire calendar year of 1994.

Two significant transactions merit further explanation.

1. In the MEETINGS category, note the expenditure of \$6,500 for travel stipends for members traveling to the GeoInfoV meeting in Prague earlier this year. The monies came from a special fund set aside for GeoInfo activities rather than from the normal operating funds of the Society.

2. The GIFTS category includes Mary B. Ansari's very generous gift of \$5,000 which was reported to the membership earlier this year.

We hope that the new report format provides the membership with a clear understanding of GIS financial health.

Respectfully submitted,
Margy Walsh, Treasurer

JOB ANNOUNCEMENTS

ENGINEERING LIBRARIAN, Engineering and Applied Science Library, Yale University, New Haven, Conn.

Engineering Librarian, Engineering and Applied Science Library, Yale University. Rank: Librarian II. Administers the Engineering and Applied Science Library. Prepares acquisitions and operational budgets. Supervises the Engineering Library Manager. Responsible for collection development in all areas of engineering, computer science, applied physics, and applied mathematics.

Qualifications: MLS degree from an ALA-accredited library school. Undergraduate degree or extensive experience in engineering or applied sciences. Two years of professional science reference experience with substantial on-line searching experience. Science collection development experience. Microcomputer or other computing experience. Experience with user education. Demonstrated initiative and flexibility. Ability to work cooperatively in a demanding and rapidly changing environment. Demonstrated interpersonal skills, including excellent oral and written communication skills. Ability to work independently; possess good time-management skills. Supervisory experience preferred. Salary from \$34,400 dependent upon qualifications and experience. Full benefits package including 22 vacation days; 17 holiday, recess and personal days; health care; TIAA/CREF or Yale retirement plan; and relocation assistance. To be assured of consideration, please submit a letter of application, resume and the names of three references by August 30, 1994 to Diane Y. Turner, Director, Library Personnel Services, P. O. Box 208240, New Haven, CT 06520-8240. EEO/AA

MAPS/NONBOOK CATALOGING LIBRARIAN, Penn State University Libraries, University Park, Penn.

The Penn State University Libraries seek applicants for the position of Maps/Nonbook Cataloging Librarian. Primary responsibility is for the cataloging of cartographic and other nonbook materials (e.g., computer files, audio visuals) for the University Park and campus libraries. Duties include participation in the ongoing review and establishment of Cataloging Department policies and procedures, especially maps and nonbook materials.

Qualifications: Requires ALA-accredited MLS; degree in geography or cartography; minimum one year of post-MLS professional maps cataloging experience; knowledge of at least one foreign language; working knowledge of AACR2rev, LCRIs, LCSH, and MARC tagging for maps; experience with a bibliographic utility preferably OCLC or RLIN; good writing and communication skills. Advanced degree in geography or cartography and automation experience desirable. Evidence of potential for promotion and tenure will be considered.

Compensation: Salary and rank dependent on qualifications. Benefits include: liberal vacation; excellent insurances; State or TIAA/CREF retirement options; and educational privilege. Applications will be reviewed beginning August 31, 1994 and continue until the position is filled. To apply, send letter of application to: Nancy Slaybaugh, Manager, Libraries Human Resources, Box MPF-MNB, E-1 Pattee Library, University Park, PA 16802. (Please respond by surface mail only.)

AN AFFIRMATIVE ACTION, EQUAL OPPORTUNITY EMPLOYER. WOMEN AND MINORITIES ARE ENCOURAGED TO APPLY

HEAD, Maps and Government Information Department, Library, Syracuse University, Syracuse, N.Y.

Syracuse University Library, a member of ARL and RLG, seeks a head for its user-oriented Maps and Government Information Department, which includes research-level U.S. and N.Y. State depository collections (U.S. selection at 60%), a cartographic collection and map room, and work stations for public use of CDROM and electronic resources. Reference service offered over 75 hours a week. Department also manages publications of the UN and Council of Europe. Supervises six staff and reports to the Associate University Librarian for Public Services.

Plans, implements, and evaluates departmental programs and services, including reference and instructional services to students, faculty, and other users of depository materials; organizes documents and cartographic collections; manages electronic resources; provides staff development and training; supervises processing and cataloging operations utilizing Marcive and OCLC, with records listed in the library's NOTIS-based online catalog; has responsibility for collection development.

Serves on the Library's Administrative Cabinet, working on access, resource sharing, preservation, document delivery, electronic resource, collection development, and other issues. Selects materials for the library in assigned subject areas, with responsibility for commitment and expenditure of collection development funds in these subjects.

Required qualifications: an advanced degree from an ALA-accredited program; four or more years of experience with government publications and/or maps, preferably in a research library; supervisory experience. Preferred: a second master's degree; knowledge of cartographic resources; online cataloging experience; reading knowledge of Russian, French, or German. The successful candidate will bring to this position experience in using electronic reference and government publications resour-

ces; knowledge of emerging technologies; collection development experience; effective oral and written communication skills; a commitment to providing responsive and innovative services to a culturally and racially diverse campus; the ability to work cooperatively in a demanding and rapidly-changing environment; and evidence of professional/scholarly activity.

Salary is commensurate with qualifications and experience; minimum: \$38,000.

Send letter of application, resume, and names of three references to: Search Committee for Head, Maps and Government Information Dep't., Syracuse University Library, Office of Human Resources, Syracuse University, Syracuse, NY 13244. Applicants received by 7/15/94 will receive first consideration. SYRACUSE UNIVERSITY IS AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER.

HEAD, Physical Sciences & Technology Library, University of California, Los Angeles

Professional librarians at UCLA are eleven-month academic appointees. They are entitled to two days per month of annual leave, one day per month of sick leave, reductions in incidental fees, and all other perquisites granted to non-faculty academic personnel. The University has an excellent retirement system and sponsors a variety of group health, dental, vision, and life insurance plans.

A candidate for appointment shall have a professional background of competence, knowledge, and experience to assure suitability for appointment to this series. Such background will normally include a professional degree from a library school with an accredited program. In addition to professional competence and quality of service within the library, criteria for promotion include professional activity outside of the library, University and public service, research and other activity.

Rank: Associate Librarian/Librarian

Name of Unit: Physical Sciences and Technology Library

Position Title: Head, Physical Sciences & Technology Library

Salary Range: \$35,052 - \$59,316

Description of Unit: The UCLA Library system is comprised of the University Research Library, the undergraduate College Library, and eleven subject libraries. The Physical Sciences & Technology Library (PSTL) provides collections and services in support of the research and educational programs of the School of Engineering and Applied Sciences, the Departments of Astronomy, Atmospheric Sciences, Chemistry and Biochemistry, Earth and Space Science, Mathematics, and Physics, and related institutes. PSTL is comprised of 4 separate collections (Chemistry, Engineering and Mathematical Sciences,

Geology and Geophysics, and Physics) and four divisions (acquisitions, administration, cataloging, and interlibrary loan). The collections includes over 460,000 volumes and subscriptions to almost 7,000 current serials.

Staffing includes 7.5 FTE librarians, 16 FTE staff personnel, and 11.69 FTE student employees. The operating budget is \$1.23 million, and the collections budget is \$1.43 million. Over 10,000 titles are cataloged annually. An average of 21,753 reference questions, 154,347 circulation transactions, and 266 instructional sessions, 12,990 interlibrary loan transactions are processed annually. Numerous databases and full-text electronic sources are available on the UCLA ORION online information system and the University of California MELVYL system.

Duties: Under the general direction of the Associate University Librarian for Sciences, is responsible for managing library operations (budget, personnel, facilities) including collection development, acquisitions, cataloging, circulation and reserves, reference and instructional services, and interlibrary loan services; designing systematic approaches to gathering data on user needs and use of the collections; initiating innovative user services; evaluating and strengthening the collections and services; and balancing resources and priorities to address PSTL and library-wide goals. Provides active leadership in shaping the vision and strategic directions for PSTL, keeping abreast of research and educational trends in engineering and science, and the impact of technology on information access, teaching, and research. Builds visibility for and effective relationships with clientele, campus libraries and offices, and regional libraries. Participates in administrative and policy level groups and advisory committees, and library fundraising and development efforts as requested.

Qualifications: Demonstrated managerial experience in a science and/or engineering library. Knowledge of science and engineering literature and current trends and issues in science publishing. Thorough understanding of the trends, concerns, and methods of science and engineering research, education, and librarianship. Ability to work independently, plan creatively, implement ideas, and manage change positively. Effective oral and written communication skills, demonstrated successful interpersonal skills, and the ability to work successfully with library users, colleagues, and staff in a multicultural environment. Ability to organize and supervise staff. Must have excellent problem-solving and group dynamics skills and a strong commitment to staff development. Desirable qualifications include: Academic degree in science or engineering. Experience in collection development and providing services within a research university library system. Experience working in a highly automated environment including an online public access catalog and local and wide area networks. Demonstrated interest in professional and/or scholarly activities (research, publication, or teaching).

Candidates wishing to apply should send letter of application, resume, and the names and addresses of 3 references to Dr. Rita A. Scherrei, Associate University Librarian for Personnel and Administrative Services, University Research Library, UCLA, 405 Hilgard Ave., Los Angeles, CA 90024-1575. Candidates applying by July 1, 1994 will be given first consideration.

CURATOR, Archives of Women in Science and Engineering, Iowa State University, Ames, Iowa.

Curator, Archives of Women in Science and Engineering. Assistant Professor, or above dependent upon qualifications. The Iowa State University Special Collections Department seeks a curator for the Archives of Women in Science and Engineering, a subject-based manuscript collection initiated in 1993 to collect and preserve the papers of American women in science and engineering and the records of women's organizations, both regional and national, in these areas. The curator will be responsible for soliciting, arranging, and describing collections; for supervising student assistants in processing these collections; and for providing reference service to the collections. Reports to the Head of the Department of Special Collections. Contributes to departmental planning, budgeting, and policy and procedure development. Assists in promoting the resources of the department through exhibitions and presentations. Provides support as necessary in other areas of the department, including some reference service at the department's reference desk. In addition to the Archives of Women in Science and Engineering, the Special Collections Department includes the University Archives, the American Archives of the Factual Film, and four other subject-based archives collecting in the areas of agriculture and rural life, veterinary medicine, statistics, and the evolution/creation science debate.

QUALIFICATIONS: Required: Position requires the completion of an ALA- accredited Master's degree with coursework in manuscripts curacy, archives administration, or appropriate equivalencies. Excellent organizational, oral and written communication, and interpersonal skills. Preferred: Background in one of the sciences or engineering, in the history of science or technology, or in women's studies. Familiarity with MARC AMC format and micro-computer applications. One or more years of manuscripts or archival experience in an academic or research setting; supervisory experience.

SALARY AND BENEFITS: \$28,000 minimum; final salary dependent upon qualifications; TIAA/CREF, medical benefits. Serving over 25,000 students, the Library provides electronic resources and access tools which complement nationally recognized print collections. Ames supports quality schools and outstanding cultural attractions and was recently recognized as one of the top ten areas of its size in the country.

APPLICATION DEADLINE: Review of applications will begin August 22, 1994 and will continue until the position is filled. To apply: Submit letter, resume and the names, addresses and telephone numbers of three references to: Chair, Curator, Archives of Women in Science and Engineering, 302 Parks Library, Iowa State University, Ames, IA 50011-2140. Iowa State University is an Equal Opportunity/Affirmative Action Employer. Members of protected classes are encouraged to apply.

PHYSICAL SCIENCES LIBRARIAN, North Dakota State University, Fargo, N.D.

North Dakota State University invites applications for the position of Physical Sciences Librarian. This is a staff position reporting to the Program Director for Research Services. Position responsibilities include general and specialized reference and research assistance, supervision of the H.J. Klosterman Chemistry Library, and collection development and liaison activities in the physical sciences and other subject areas as assigned. Other responsibilities include library instruction, involvement in special projects, and service on Library and University committees. Salary dependent upon qualifications and experience (minimum \$25,000) plus an attractive benefits package. Required qualifications are: MLS from an ALA-accredited school; degree, experience, or demonstrable interest and knowledge in science or engineering; skill in online searching and using electronic information systems; excellent oral and written communication skills; ability to interact effectively with colleagues and clientele. Prefer degree in physical sciences or related area and experience in an academic, special, or research library.

Submit a letter of application, resume, and the names, addresses, and phone numbers of three references to Mark England, c/o the Office of Human Resources, P.O. Box 5345-University Station, Fargo, ND 58105. Applications received by August 31, 1994 will receive priority consideration. This position is available immediately and is open until filled. North Dakota State University is an equal opportunity institution.

Geoscience Information Society - FINANCIAL REPORT
January 1994--June 1994

	Income Budgeted	INCOME Actual	Expenses Budgeted	EXPENSES Actual
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EXECUTIVE BOARD (Subtotal)	-	-	(\$2,740.00)	(\$385.89)
President	-	-	-	(\$37.70)
Vice-President	-	-	-	-
Past President	-	-	-	-
Secretary	-	-	-	-
Treasurer	-	-	-	(\$87.50)
Teleconferences	-	-	-	(\$260.69)
MEETINGS (Subtotal)	\$300.00	-	(\$3,800.00)	(\$8,319.07)
1993 Meeting	-	-	-	(\$1,602.97)
1993 Meeting : Exhibits	-	-	-	-
1993 Meeting : Field Trip	-	-	-	-
GeoInfo V (Prague)	-	-	-	(\$6,500.00)
1994 Meeting	-	-	-	(\$216.10)
1994 Meeting : Exhibits	-	-	-	-
1994 Meeting : Field Trip	-	-	-	-
DUES (Subtotal GIS dues)	\$11,500.00	\$9,475.00	-	-
Corporate	-	\$2,400.00	-	-
Corporate, Sustaining	-	\$200.00	-	-
Personal	-	\$6,280.00	-	-
Personal, Sustaining	-	\$400.00	-	-
Retired	-	\$180.00	-	-
Student	-	\$15.00	-	-
AGI Society Dues	-	-	(\$900.00)	(\$187.00)
PUBLICATIONS (Subtotal)	\$6,300.00	\$4,760.00	(\$7,300.00)	(\$4,066.24)
Publications Manager	-	-	-	(\$320.95)
Dir of Geoscience Libraries	-	\$1,625.00	-	(\$48.87)
Mailing Labels	-	\$150.00	-	-
Membership Directory	-	-	-	-
Newsletter : Printing	-	-	-	(\$1,001.31)
Newsletter : Mailing	-	-	-	(\$405.11)
Newsletter Subscriptions	-	\$1,020.00	-	-
Proceedings, V24 (1993)	-	-	-	(\$2,290.00)
Proceedings, V23 (1992)	-	\$1,485.00	-	-
Proceedings, V22 (1991)	-	\$310.00	-	-
Proceedings, V21 (1990)	-	\$125.00	-	-
Proceedings, V20 (1989)	-	\$45.00	-	-
GIFTS	\$750.00	\$5,140.00	-	-

REPRESENTATIVES & APPOINTEES	-	-	(\$2,800.00)	-
COMMITTEES (Subtotal)	-	-	(\$1,580.00)	-
Archives	-	-	-	-
Best Paper	-	-	-	-
Best Reference Work	-	-	-	-
Collection Development	-	-	-	-
Digital Data	-	-	-	-
Geonet-L	-	-	-	-
GeoRef Users	-	-	-	-
Guidebook	-	-	-	-
International Issues	-	-	-	-
Membership	-	-	-	-
Nominating	-	-	-	-
BANK CHARGES	-	-	(\$30.00)	(\$25.10)
INTEREST	\$250.00	\$412.31	-	-
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==> Total income & expenses	\$19,100.00	\$19,787.31	(\$19,150.00)	(\$12,983.30)
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Opening Balance (1/1/94) GRAND TOTAL: \$29,275.11

CHECKING

BA: Bank of America \$17,454.06
TX: BankOne, Texas \$1,100.00
NH: New Hampshire \$288.59
TOTAL \$18,842.65

SAVINGS

Ansari (BA) -
Bristol (BA) \$727.86
GeoInfo (Home Sav) \$9,704.60
TOTAL \$10,432.46

Closing Balance (6/31/94) GRAND TOTAL: \$36,079.12

CHECKING

BA: Bank of America \$16,035.90
TX: BankOne, Texas \$14,290.42
NH: New Hampshire -
TOTAL \$30,326.32

SAVINGS

Ansari (BA) \$5,016.44
Bristol (BA) \$736.36
*GeoInfo (Home Sav) -
TOTAL \$5,752.80

* Balance of GeoInfo funds (\$3,332.26) kept in TX BankOne account (5/94)

Connie J. Manson, Editor
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