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GIS newsletter

Published quarterly by the Geoscience Information Society

Number 35 ISSN 0046-5801 June 1975

USGS Now Sells Its Publications Directly

On April 1, 1975, the U.S. Geological Survey became an authorized agent of the Superintendent of Documents, U.S. Government Printing Office. This enables the Survey to make direct sales of its publications (books, reports, and maps) through the mail. USGS anticipates that this will expedite the distribution of its current reports, as well as out-of-print reports no longer stocked by the Government Printing Office.

To order USGS reports through the mail, indicate the series and number (e.g., *Professional paper 813-C*) and complete title. Send the order, with check payable to the U.S. Geological Survey, to: Branch of Distribution, USGS, 1200 South Eads St., Arlington, Va. 22202.

GIS Guidebooks Committee Roster Has Been Filled

Ms. Harriet W. Smith, Chairperson, GIS Guidebooks and Ephemeral Publications Committee, has announced that the Committee's membership is now complete. Members are:

- Harriet W. Smith, University of Illinois at Urbana-Champaign, Chairperson
- Mary W. Scott, University of North Dakota, Grand Forks
- Katherine Keener, USGS, Reston, Va.
- Dederick Ward, University of Colorado, Boulder
- Beatrice Lukens, University of California at Berkeley
- Regina Brown, The Ohio State University, Columbus
- Elizabeth Loomis, Mobil Oil Canada, Calgary
- Claren Kidd, University of Oklahoma, Norman
- Ina Brownridge, State University of New York, Binghamton

The Committee is now engaged in collecting data for the third edition of its *Geologic fieldtrip guidebooks*.

Ei Data Base Study Reveals Low Engineering Geology Coverage

Engineering Index, Inc., in its March 1975 issue of *Notes and comments*, revealed the results of a recent study of its data base. The Ei editorial staff compiled a list of thirty-eight SDI subject groups in the Ei data base. Statistics for 1974 indicate how many CARD-A-LERTS (a weekly card service) could be generated for each subject group during the year and what percentage of the data base each group composed. The subject group

Engineering geology generated only 2,620 out of the 199,329 cards produced during the year. This was 1.31% of the master data base.

GSA Initiates New Microform Series

The Geological Society of America has initiated a new microform series which will contain information similar to, but not duplicating, that appearing in its *Special papers* and *Memoirs*. The first publication in the series, entitled *Environmental geology: a selected bibliography*, will consist of four microfiches containing 331 typescript pages of text and more than 4,200 citations arranged in eight subject categories.

The microfiche will be provided in a storage envelope and will be shipped either first class (domestic) or air mail (foreign). For further information, inquire of GSA, 3300 Penrose Place, Boulder, Colo. 80301, phone (303) 447-2020.

GIS members are urged to take an active, articulate role in the National Science Foundation's project to develop more efficient dissemination and more effective use of scientific and technical information. Dr. Louis Cima of NSF's Office of Science Information Service discussed OSIS' seventeen planning goals at the 1974 GIS luncheon meeting in Miami Beach. These are detailed in NSF 74-39, "To Improve Access and Use of Scientific and Technical Information," available from NSF, Washington, D.C. 20550. Any thoughts concerning user needs in the geoscience field and the librarian's problems in meeting these needs should be submitted in writing to:

Ms. Roger P. Bristol
1808 Barracks Road
Charlottesville, Va. 22903

Ms. Bristol will organize the responses and submit them to the *GIS newsletter* for publication.

GEOLOGY

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COGEODATA To Sponsor Nov. 1975 Symposium On Geological Data

COGEODATA, in collaboration with UNESCO, will sponsor a symposium "Capture, Management and Display of Geological Data, With Special Emphasis on Energy and Mineral Resources" in Paris, France, November 24-26, 1975. The symposium is intended to complement a workshop designed expressly for the needs of developing countries, on the same topic, to be held at the 25th International Geological Congress, Sydney, Australia, in August 1976.

Large volumes of carefully collected and evaluated data are required for better understanding of the origin, distribution and economic potential of mineral and fuel deposits. Additionally, there are requirements for relating geological data to the global socio-economic structure through modelling and systems analysis. These various functions demand the application of improved information technology by geologists.

Details of the Conference, mentioned in COGEODATA's first circular on the meeting, are as follows:

Date: 24-26 November, 1975

Place: l' Hôtel des Ingénieurs Arts et Métiers,
9 bis, Avenue d'Iena,
Paris, France

Cost: Approximately \$20.00 registration fee. (To be announced in second circular.)

Tentative Sessions

24 November 1975

9:30-12:00 a.m. Session I Introduction
Statement of Problems
Analysis and Options

2:00-5:00 p.m. Session II Data Management
Data Structures
Current Systems
Practical Constraints and
Considerations

25 November 1975

9:00-12:00 a.m. Session III Data Capture and Display
2:00-5:00 p.m. Session IV Fossil Fuel Data

26 November 1975

9:00-12:00 a.m. Session V Mineral Deposit Data
2:00-5:00 p.m. Session VI Towards the Year 2000

Programme Chairman: W. W. Hutchison

Talks: Each paper presented will be 20 minutes in length with five minutes allowed for discussion.

Language: Because there will be no translation service and because most participants can speak and/or understand English, speakers will be encouraged to present their papers in English.

Registration: Anyone wishing to receive a copy of the second circular for this meeting should write to:

Dr. C. F. Burk, Jr.
Secretary, COGEODATA
Canada Centre for Geoscience Data
580 Booth Street
Ottawa, Ontario
Canada K1A 0E4

Documents Index Will Publish Guide To U.S. Government Maps

Documents Index, McLean, Va., has announced it will publish a multi-volume series *Guide to U.S. government maps*, with the first volume, *Geological maps*, appearing in July or August 1975. This new reference tool, published in looseleaf form, will list and index over 60,000 maps currently published by the four major map producing agencies: Geological Survey, Naval Oceanographic Office (formerly the Hydrographic Office), National Ocean Survey (formerly the Coast and Geodetic Survey) and the Defense Mapping Agency (formerly the Army Map Service). Other agencies issuing maps to a lesser degree will be included. In addition to describing the various map series, the *Guide* will list all the maps in each series, giving concise and pertinent information for each map. Indexes will identify maps by subject and location. To aid in location identification, a coordinate index covering the named quadrangles will also be included.

As a bonus feature, Documents Index is including a reprint of the index of the *National atlas of the United States of America* in a 294-page, 8½ x 11, paperbound volume. Using the *Atlas* index in conjunction with the coordinate index, users will be able to identify named quadrangle maps for any of the 41,000 locations and physical features of the United States.

The basic volume of the *Guide* will be kept up-to-date by supplements of new and revised pages. The subscription to this new service is tentatively priced at \$60 for the basic volume and supplements issued through 1975. Further information may be obtained from Documents Index, Box 195, McLean, Va. 22101.

The American Geological Institute, publisher of *Geotimes*, has asked the *Newsletter* to remind GIS members that *Geotimes* is now available only to those AGI society members who subscribe to the periodical (annual subscription is \$6.00). AGI is still receiving change-of-address notices from individuals who are not subscribers but apparently think the non-arrival of the magazine is due to their changed address!

Computerized Data-Mapping Systems

by M.J. Haigh,
Senior Research Demonstrator, Dept. of Geography,
University of Keele, Keele, Staffordshire, England

Geoscientists are increasingly being confronted by very large, spatially-referenced data sets. Such information is often best analysed and appreciated when it is presented in map form. Frequently, the precise nature of the data is a consideration which ranks second to the practical problems involved in display and presentation. A recent conference at the University of Durham, England, was dedicated to an examination of current automated mapping systems. Its brief was to help make existing computer mapping systems more powerful and flexible and to help make routine the analysis and display of spatial data. The conference was organised by Dr. D. Rhind of the Department of Geography, University of Durham, for the Institute of British Geographers' Study Group on Quantitative Methods. It was held on May 17th, 1975, and entitled "Geographical Information Systems."

Dr. Baxter, University of Cambridge, presented the first paper: "An Introduction to Geographical Information Systems." The evolution of geographical information systems was reviewed in terms of evolution of computer systems in general from simple input-computer-output systems, through the use of magnetic disc and tape files, to the development of remote terminals fronted by mini-computers and the evolution of multi-frame computer networks. Dr. Baxter identified three main problem areas affecting the development of geographical information systems: (i) mode of data storage (point, area, or network location), (ii) file organisation, (iii) the fact that geographical data processing consumes a large amount of computer time. It was emphasized that there was a need to make these systems accessible to non-computer specialists. Three options were suggested involving the development of access by: (i) simple command languages, (ii) query languages, (iii) inter-active graphics. The last was especially favoured.

Dr. T. Waugh, Edinburgh Regional Computer Centre, described "GIMMS-a User-Oriented Geographic Information Mapping and Modelling System" designed for the processing of medium and small-sized data sets as maps. GIMMS is a self-contained, generalised, package containing modules which may be used independently or in conjunction with other programs. The system combines features from the DIMC and Map Model (Oregon) systems. It can handle alphabetic and numeric data, and it can deal with points, lines and areal data. It can create variables through logical and/or arithmetic operations and incorporates a boundary checking routine which tests for topological consistency. It is free format, command driven, and operates in batch or inter-active modes.

Dr. G. Craine, Durham County Council, considered "Modelling of Landscape with MOSS." The MOSS system was developed to prepare maps for highway engineering projects. It is capable of: (i) defining ground slope and the detail of other geographical and geometrical land features, (ii) the calculation of areas, volumes, and the intersections of surficial and subterranean surfaces, (iii) displaying results as plans, sections, or models. The key to the MOSS system is the method of data storage. Information is stored as strings of multi-dimensional co-ordinates and attributes. Strings are grouped to form models of areas networks and surfaces. The system is command driven, employing single line inputs to select from a suite of major and minor processing options. Major options dictate the interaction of models. Minor options include point manipulation, string manipulation, string index editing, and masking. This advanced and highly adaptable system has a high level of practical efficiency and its predictions concerning the dimensions of proposed quarry excavation volumes and works connected with route construction are accurate.

"Assessing Requirements and Planning Recreational Areas Using the TRIP System" was the subject of a paper by Dr. B. Duffield, University of Edinburgh, who illustrated how the TRIP system is used to select areas of environmental worth by overlapping maps of physical and socio-economic parameters. The system is non-specific, user-oriented, and provides a range of facilities as default options. These include cross-tabulation and standard statistics. Dr. B. Aldred, IBM U.K. Scientific Centre, described current progress in the development of the Urban Management System and Dr. Visvalingam, University of Durham, discussed some technical problems connected with the storage of U.K. census data.

New Mexico Institute Of Mining & Technology Library Show Case Of Modern Architecture

By Mrs. Roza Ekimov,
Exploration Librarian,
Exxon Company USA,
Denver, Colo.

New Mexico Institute of Mining & Technology is an internationally known center for research, emphasizing engineering, geoscience, and other physical sciences. Located in Socorro, a city of about 7,000 population in the central Rio Grande Valley at the foot of the Magdalena Mountains, the new library serves as the nucleus of the institute designed by John Reed, Architect, 5905 Marble Avenue, NE, Albuquerque, New Mexico.

This library was planned for double the present enrollment of 800 students, and was completed in 1971. The design will accommodate up to 110,000 volumes and 280 readers. The basic design idea is that of a central "core," which allows "control" of all reading and stack areas. The "core" partitions are predominantly glass, thus allowing minimum personnel. Expansion is provided with the "unfinished" areas at the lower level. The ultimate furnished areas will be 28,000 square feet. The heavily textured dominating walls and the clay tile roof tend to relate the building to the older campus buildings, creating a contemporary yet regional atmosphere. Construction cost was \$500,000, and approximately \$150,000 was spent for furnishings.

The main (upper) level has 4 large stacks, reading areas, and two lounge-reading areas, in addition to the "core" area. The reading lounges open onto outdoor patios. The "core" contains circulation desk vis à vis entrance to the library, photo copying machine, book return, librarian's room, microfilm reading room, seminar area, microfilm camera, map room and staff work area in the center. At the rear of this floor the receiving room, restrooms, supplies, and elevator are located. The reference collection and card catalog, monographs and government documents collection are on this floor, too. The core of the lower level contains special collections, current periodicals, microfilm readers and staff work area. The music room, engineering equipment room, bound volumes of back periodicals, photo copying machine, seminar rooms and lounge area are offered on this floor. On both floors near the elevator are water fountains.

The sunny color scheme of gold, slate blue, dark blue, purple and chartreuse green throughout the facility is highlighted with paintings by students and outside artists hung on the center core wood grain finish panel walls.

Incidentally, the project won an American Institute of Architects Design Award in 1971. Be sure when you visit New Mexico to stop by in Socorro and visit this marvelous structure. Bravo to Mr. John Reed!

MINOBRAS Publishes References To State Industrial Minerals

MINOBRAS, Post Office Box 262, Dana Point, Calif. 92629, publishes a series of books listing industrial minerals of individual states. Their latest publication *Colorado and Utah industrial minerals*, issued in 1974, is priced at \$15.50 (LC 74-84578). It is a comprehensive reference and compendium of twenty-five industrial minerals. Over 1200 mines, deposits prospects and mineral occurrences are listed by section, township range, with a brief description. Applicable U.S. Geological Survey quadrangle maps are also given, as well as county/mineral indexes, township range location maps, commodity reviews, markets and current prices. Other available titles in the series are *Nevada industrial minerals*, 1973, \$13.40, and *Southern California industrial minerals*, 1973, \$14.70.

Royal Scottish Museum Issues Information Series

Edinburgh's Royal Scottish Museum houses a comprehensive display of natural history and geology, as well as technology and the decorative arts. In order to detail particular aspects of its large study and reference collections, the Museum has initiated an *Information series*, issued free to institutions, libraries, or individuals. The *Geology* sub-series, numbers 1-3 and 5, are catalogues of the Museum's fossil vertebrate collection; number 4 is a catalogue of its Carboniferous corals. The *Natural history* sub-series discusses Amphipoda, Gastropoda, etc. Further information may be obtained from:

The Librarian
Royal Scottish Museum
Chambers Street
Edinburgh EH1 1JF, Scotland

Literature Citations

El-Hadidy, Bahaa. *Bibliographic control among geoscience abstracting and indexing services. Special libraries*, vol. 66, no. 5/6, May/June 1975, p. 260-265.

Ross, Margaret U. *Map collections in India, Australia, and New Zealand: an overview. Special libraries*, vol. 66, no. 1, January 1975, p. 32-36.

Smalley, Topsy N. *Collection building in the environmental sciences. Special libraries*, vol. 66, No. 4, April 1975, p. 188-196.

Wright, L. Christopher and Stone, Elizabeth W. *Data and information services of the National Oceanic and Atmospheric Administration. Special libraries*, vol. 65, no. 8, August 1974, p. 311-318.

New Geoscience Publications

The American cartographer, vol. 1, no. 1, April 1974. Semi-annual (April and October). Washington, D.C., American Congress on Surveying and Mapping. \$7.00/yr.

Catalog of earthquake photographs. Comp. by Jerry L. Coffman. November 1974. (Key to geophysical records. Documentation no. 3). Free. Available from: U.S. Dept. of Commerce, National Oceanic and Atmospheric Administration, Environmental Data Service, National Geophysical and Solar-Terrestrial Data Center (D62), Boulder, Colo. 80302.

Computer-based systems for geological field data. Ottawa, Geological Survey of Canada, Dept. of Energy, Mines and Resources, 1975. 100 p. (*Canada Geological Survey. Paper 74-63*). Available from Information Canada, Ottawa, K1A 0S9: \$4.00 in Canada; other countries, \$4.80. Catalogue no. M44-74-63.

Craddock, J.M. *The storage, cataloguing and retrieval of meteorological information*. Geneva, Secretariat of the World Meteorological Organization, 1974. 234 p. (WMO no. 366; World weather watch planning report no. 34). Paperback, \$15.00. (LC 75-300546; ISBN 9-263-10366-6).

At head of title: Global data-processing system. Summary in English, French, Russian and Spanish.

Directory of geoscience departments, United States and Canada. 1974/5 ed. Falls Church, Va., American Geological Institute, 1975. \$10.00.

Energy data accessing and/or retrieval. September 1974. 12 p. (*CODATA bulletin 12*). Free. Available from: CODATA Permanent Secretariat, 51 Boulevard de Montmorency, 75016 Paris, France.

A report of the Working Panel on Data Tagging convened at the Energy Research and Development Data Workshop held May 6-7, 1974, at the National Bureau of Standards, Gaithersburg, Maryland.

Environmental impact news, vol. 1, no. 1, January 1975. Monthly. Technomic Publishing Co., Inc., 265 W. State St., Westport, Conn. 06880. \$30.00/yr.

Environmental research publications, 1971-1975. January 1975. (EPA-670/9-75-001). Free. Available from: Technical Information Staff, National Environmental Research Center, U.S. Environmental Protection Agency, Cincinnati, Ohio 45268.

This is a guide to technical papers and reports generated from N.E.R.C. in Cincinnati and is not intended to reference all the technical publications of the U.S. Environmental Protection Agency.

The language of oil. December 1974. 70 p. Free. Available from: Mobil Oil Corp., 150 East 42nd St., New York, N.Y. 10017.

"A ready reference to over 100 frequently used oil industry expressions."

LC science tracer bullet: remote sensing—an overview. Comp. by Jane Collins. January 1975. (TB 75-2; ISSN 0090-5232). 12 p. Free. Available from: Library of Congress, Reference Section, Science and Technology Division, Washington, D.C. 20540.

Mackay, John W. *Sources of information for the literature of geology, an introductory guide*. 2d. ed. Published for the Geological Society of London by Scottish Academic Press, Ltd., Edinburgh, 1974. 59 p. £ 1.40 (\$4.30).

Map librarianship: readings. Comp. by Roman Drazniowsky. Metuchen, N.J., Scarecrow Press, 1975. 548 p. (LC 74-19244, ISBN 0-8108-8739-4).

Roberts, Willard Lincoln et al. *Encyclopedia of minerals*. New York, Van Nostrand Reinhold, 1974. 693 p., 128 color plates. \$69.50 (LC 74-1155; ISBN 0-442-26820-3).

Supplement to American malacologists. Ed. by R. Tucker Abbott. 1975. \$2.00. Available from: American Malacologists, Box 4208, Greenville, Delaware 19807. (*American malacologists, 1973-74*, a national register of living professional malacologists and amateur conchologists, is now available in paperback for \$4.95.)

Water resources of the world. 1975. 530 p., 578 tables, 47 maps and diagrams. Hard cover, 7" x 10" volume, \$26.00 before August 15; \$32.50 after that date. Available from: Water Information Center, Inc., 44 Sintsink Drive East, Port Washington, N.Y. 11050.

This comprehensive volume presents by continent, on a country-to-country basis, up-to-date statistics on all water resources topics, including stream flow and runoff, ground water, water use, irrigation, industrial and public water requirements and water-use projections. It also contains world-wide data on climate, the oceans, the hydrologic cycle, characteristics of the world's major rivers, lakes, reservoirs, and dams, and discusses the availability of hydrologic cycle, characteristics of the world's major rivers, lakes, reservoirs, and dams, and discusses the availability of hydrologic information, the water supply situation in developing countries, desalination, and financing of water projects.

Worldwide directory of national earth-science agencies. Compiled by Anne Lucas Falk and Ralph L. Miller. 1975. (*U.S. Geological Survey. Circular 716*). Free. Available from: U.S. Geological Survey, National Center, Reston, Va. 22092.

Lists governmental earth-science organizations whose functions are similar to those of the USGS.

GeoRef bibliographic citation lists:

- Basalt in ocean basins, 1972-1974*. 45 p.
- Carbonate sediments, 1973-1974*. 30 p.
- Caribbean region, 1972-1974*. 46 p.
- Geochemistry of some environmental problems, 1973-1974*. 42 p.
- Man, fossil (in the Americas), 1967-1974*. 13 p.
- Peat, 1970-1974*. 38 p.
- Permafrost, 1972-1974*. 34 p.
- Sedimentary processes on the Atlantic continental margin of North America, 1968-1974*. 22 p.
- Submarine canyons, 1967-1974*. 25 p.

These lists were generated by GeoRef in searches made for symposia at the 1974 GSA annual meeting in Miami Beach. Similar searches on the GeoRef data base cost \$75 each plus 15 cents a citation. The lists are available for \$2.75 each from the Geological Society of America, 3301 Penrose Place, Boulder, Colo. 80301.

**Geoscience Information Society
Financial Statement Covering 11-20-73
Through 12-31-74.
Prepared by A. Mamoulides, Treasurer**

MISCELLANEOUS DEPOSITS	
Includes transfer of funds from former treasurer, redeposit of monies advanced for projects, luncheon receipts	
	\$2025.34
INCOME	
Subscriptions to <i>Newsletter</i> (10.00 yr.)	\$ 150.11
Sale of <i>Proceedings</i> and other publications	386.00
Membership dues (\$10.00/yr. Individual) (\$25.00/yr. corporate)	2138.00
	\$2674.11
EXPENSES	
<i>Printing costs</i>	
Last issue of 1973 <i>Newsletter</i>	\$ 556.82
1973 <i>Proceedings</i>	692.40
<i>Directory</i>	419.79
Nos. 1-5, 1974 <i>Newsletter</i> and program announcement	819.00
	\$2488.01
<i>Postage</i>	
1973 <i>Proceedings</i>	\$ 53.80
Last issue of 1973 <i>Newsletter</i> and committee expenses	139.74
Nos. 1-5, 1974 <i>Newsletter</i> and program announcement	152.63
	\$ 346.17
<i>Supplies</i>	
Stationery, mailing labels, envelopes, checks, etc.	\$ 81.21
<i>Fees</i>	
AGI dues, Recorder of Deeds, Washington, D.C.	
Bank charges	\$ 553.35
<i>Other expenses</i>	
Committee expenses other than postage and printing, such as typing, phone calls, etc.; luncheon costs,	\$ 235.08
postage and phone calls incurred by 1974 President	18.00
	\$3721.82
TOTAL EXPENSES	
Miscellaneous deposits and income	\$4699.45
Expenses	3721.82
Balance on hand as of 12-31-74	\$ 977.63
SAVINGS ACCOUNT:	
Initial deposit 10-4-73	\$700.00
Interest for 1973	10.50
Interest for 1974	43.60
	\$754.10 Total in savings account

New Members

William A. Bollinger
Bechtel Incorporated
Geology Library
Post Office Box 3965
San Francisco, Calif. 94119

Marjorie Brant
Library, Columbia Gas of Ohio, Inc.
1600 Dublin Road
Columbus, Ohio 43215

Autumn Colby
1027 N. Negley Avenue
Pittsburgh, Pa. 15206

Chris R. Hanson
State Cartographer's Office
144 Science Hall
University of Wisconsin
Madison, Wis. 53706

International Field Corporation
1742 Capital National Bank Bldg.
Houston, Texas 77001

Mary T. Laham
3-16 Marlborough Avenue
Ottawa, Canada K1A 0E8

Rosalind Walcott
Earth and Space Science Library
State University of New York at Stony Brook
Stony Brook, New York 11794

1975 GIS Officers

PRESIDENT: Jack L. Morrison, U.S. Geological Survey,
P.O. Box 7944, Metairie, Louisiana 70011 (504/837-4720)

VICE-PRESIDENT and PRESIDENT-ELECT: Vivian Hall,
Geology Library, 100 Bowman Hall, University of
Kentucky, Lexington, Ky. 40506 (606/258-5730)

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University of North Carolina, Chapel Hill, No. Caro.
27514 (919/933-2386)

TREASURER: Aphrodite Mamoulides, Head Librarian,
Shell Development Co., P.O. Box 481, Houston, Tex.
77001 (713/667-5661, ext. 3633)

The *GIS newsletter* is published quarterly in March,
June, September and December by the Geoscience
Information Society. Subscription to the *Newsletter* is
\$10.00 per year and is included in the Society's annual
membership dues. All correspondence relating to dues,
membership status and address changes should be
directed to the GIS Secretary:

Barbara Christy
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Chapel Hill, North Carolina 27514
(919/933-2386)

GIS members are invited to contribute articles or news of
general interest to the membership. Please submit all
material to the Editor.

Editor: Regina Brown
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