

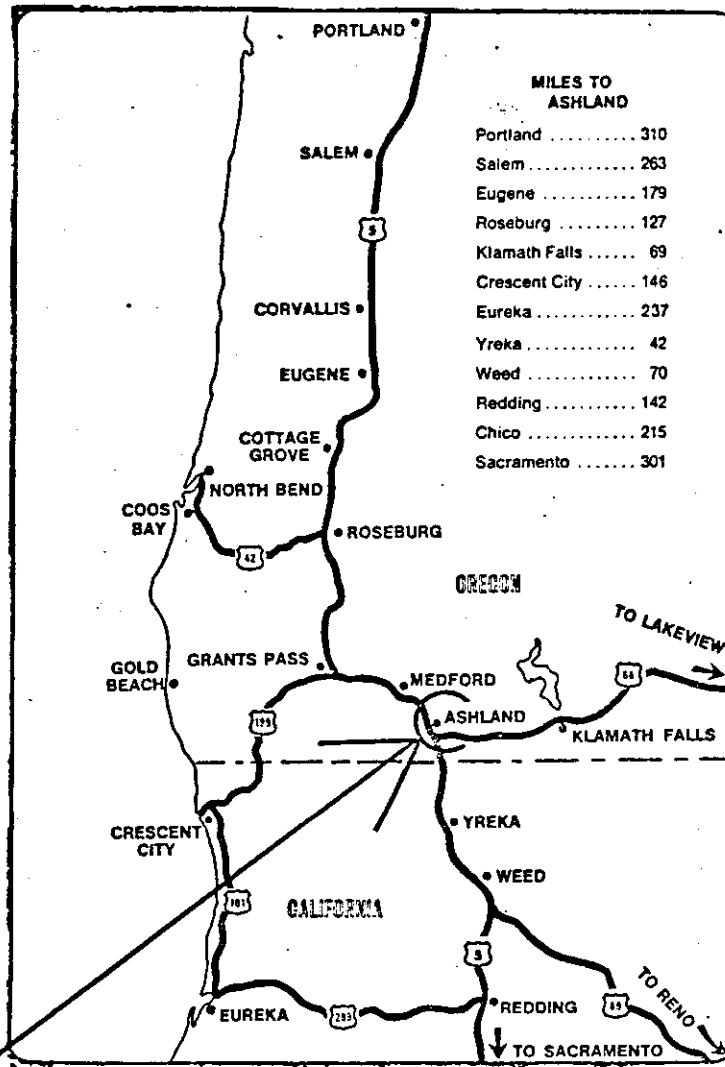
# information Bulletin



## WESTERN ASSOCIATION OF MAP LIBRARIES

Department of Geography  
 University of California  
 Berkeley, CA 94720  
 "... to encourage high standards in every phase of organization  
 and administration of map libraries ..."





## **WAML Meeting -- Ashland, OR. March 29-30-31, 1973**

### **Agenda**

#### Thursday - March 29th

- 12:00 - 1:00      Informal lunch - Stevenson Union Cafeteria
- 1:00              Opening of the Conference - Stevenson Union, Room 315 B & C  
(2nd floor)
- Welcoming Remarks & Announcements  
                    President Herb Fox, presiding
- 1:30              Map Collections of the Pacific Northwest
- University of British Columbia - Maureen Wilson  
                    Western Washington State College - Pat Simpson  
                    Central Washington State College - Mary Larsgaard  
                    Rich Engeman - Oregon Historical Society  
                    Harold Otness - Southern Oregon College

Thursday - March 29th (continued):

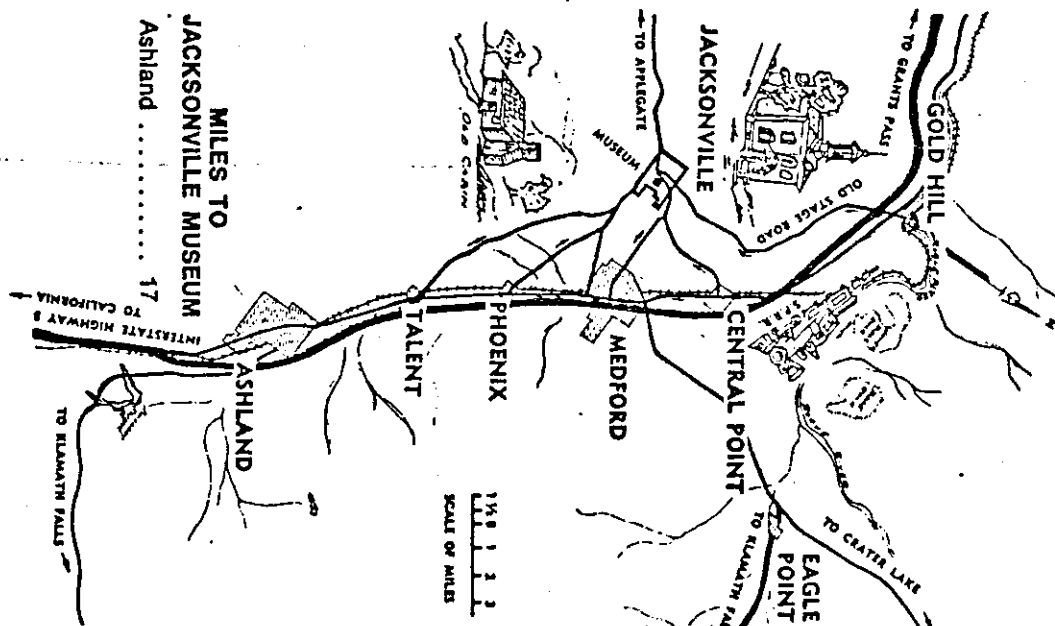
- 3:00 - 3:30 Coffee Break in Meeting Rooms
- 3:30 - 5:00 Map Collections of the Pacific Northwest (continued):
  - Oregon State University - David Schacht
  - University of Washington, Geography & Map Library - Anna Chiong
  - University of Washington, Lee Hubbard: "Making Maps Fit For Regional Service"
- 5:00 - 6:00 Wine Tasting Party - Otness home, 990 Mary Jane
- 6:00 - 7:30 Dinner - Oak Knoll Restaurant, 3070 Highway 66
- 8:00 "The Importance of Being Earnest" - Angus Bowmer Theater

Friday - March 30th

- 9:00 - 12:00 Business Meeting - Stevenson Union, Room 315 B & C  
President Herb Fox, presiding
- 10:00 - 10:30 Coffee Break in Meeting Rooms
- 12:00 - 1:00 Lunch in Stevenson Union
- 1:00 - 4:30 Teaching with Maps
  - Dr. Alvin Urguhart, Head, Dept. of Geography, Univ. of Oregon  
"Northern Nigerian Towns - thru maps & plans"
  - Dr. Christopher Salter, Dept. of Geography, Univ. of Oregon  
"China: Development of a Geographer's sense-of-place thru maps"
  - Dr. Richard Hammer, Chairman, Geography Dept., Southern Oregon College (title to be announced)
- 6:00 - 7:30 Dinner - choice of local restaurants
- 8:00 "Our Town" - Angus Bowmer Theater

Saturday - March 31st

- 10:00 Field Trip to Jacksonville & Jacksonville Museum



ASHLAND NITTY - GRITTY

Ashland is on Interstate 5, 15 miles north of the California border.

**By Air:** Medford-Jackson County Airport, 15 miles north of Ashland.

Served by Hughes Airwest and United Airlines with three flights per day from the north and four flights per day from the south.

Rental cars available from the Airport - Avis, Hertz, National

We can pick up and take you back to the Airport - let us know when you will be arriving.

**By Bus:** Both Greyhound and Trailways stop in Ashland (Downtown, about one mile from the college)

Local taxi service available but we can pick you up and deliver you to your destination.

**Motels:** Ashland

Valley Entrance Motel (AAA)

1193 Siskiyou Blvd.

Singles \$9.00 Twins \$12.00 to \$14.00

(this is the closest motel to the college - less than 100 yards to Stevenson Union where the meetings will be held)

Timbers Motel (AAA)

1450 Ashland

Singles \$8.00 Twins \$12.00

(three minutes walk to Stevenson Union)

**Medford**

Medford is the larger town and has numerous motels of all types including a gigantic new Motel 6.

Make your own reservations - we will help you if you have problems. In March there should be no problem in getting rooms, especially for Thursday Night, but advance reservations relieve worry.

**Camping:** March may be a little damp but if you are courageous there is a KOA campground about four miles from the college plus other campgrounds in the area.

**Meals:** Good selection of restaurants in all price ranges. Lunches will be most conveniently taken in the Stevenson Union (the student center at S.O.C.). See Agenda for other meals planned.

**Local Host:** Harold Otness

Southern Oregon College Library  
482-6441

(home): 990 Mary Jane  
482-2295

Wife: Loretta

SOUTHERN OREGON COLLEGE, with its nearly 5,000 students from throughout the United States and from several foreign countries, continues to play a vital role in Ashland's cultural and economic picture. Employees at the state-supported college now number some 450 persons. The total physical investment on the 160-acre campus is approaching \$30 million. In the past decade, Southern Oregon College has advanced from what was essentially a teacher education institution to one which now offers four-year degree programs in 25 subject areas. A number of graduate-degree programs also are offered, yet the college remains principally an undergraduate school.

THE OREGON SHAKESPEAREAN FESTIVAL is a classic example of community cooperation and pride. Established in 1935 as America's First Elizabethan Theatre, the Festival is recognized nationally as one of this country's leading educational repertory theatres. A non-profit organization, the Festival uses both its famous outdoor Elizabethan stage-house and the new indoor Angus Bowmer Theatre to attract an international audience of more than 155,000 to Ashland each year from March through September. More than \$2 million in tourism revenues can be traced annually to the theatre's operation. Completion of the Bowmer Theatre in 1970 allowed the Festival to double its seasons, attendance — and opportunities for our theatre artists.

## GLOBES: CURRENT OFFERINGS

by

Harold M. Otness  
Map Librarian  
Southern Oregon College, Ashland

Globes are the truest representations of the earth's surface, being relatively free from the distortions that result from trying to project curved surfaces onto flat surfaces.

From time to time I have had inquiries concerning sources, availability, and prices of globes; student teachers in particular seem to have need for this type of information. The professional literature concentrates on two aspects: globes as teaching devices, of which the Journal of Geography is perhaps the best source, and the history and description of noteworthy globes of the past as evidenced by such informative publications as E. A. Yonge's A Catalogue of early globes made prior to 1850 and conserved in the United States (American Geographical Society, 1968). But buying information appears to be available only in the catalogs of the distributors, and without a current selection of such catalogs, purchasing decisions are difficult to reach. Having recently assembled these catalogs and poured over their contents, I thought it might be useful to pass on my findings, along with some very basic globe information and a list of suppliers and their addresses. All the information is taken from catalogs received during the months of October and November, 1972, and is, of course, subject to change.

### Size

While all globes are of one shape, they come in an amazing variety of sizes and emphasize a wide range of features. The most common size appears to be 12" (diameter measurement) although the larger sizes are most effective for classroom instruction. All companies sending catalogs offer more 12" globes than other sizes. The next most popular size is 16". Replogle and Denoyer-Geppert have 24" and 32" models. Nystrom has these sizes and also 20" and 22" globes. In the smaller sizes, Replogle markets a series of 6" globes, and Nystrom has an 8" model.

### Features

The traditional globe has been political in emphasis with each country shown in a bright distinctive color. The present trend is to show more physical features with colors indicating vegetation or other surface features (dark green for jungles, light brown for deserts, white for ice caps, etc.). Shaded relief is frequently used now and at least three companies, Replogle, Nystrom, and Denoyer-Geppert, market raised relief globes. Some globes show not only the relief of continents but also the ocean floors.

Many globes are designed for instructional use and come in a wide variety of formats and combinations. Nystrom, for example, markets blank globes and globes with only the continents outlined. They can be marked with chalk or other material as the teacher desires. Denoyer-Geppert sells curved sections of the earth made of washable styrene plastic which can be displayed on walls; Modern School Supply has globe-record-3D slide combination packages, and so on.

Some of the most handsome globes marketed today are made to look like historical or antique globes through their choice of coloring and lettering. These globes are a curious blend of the old and the new for their information is up-to-date in spite of their appearance. Rand McNally and Replogle offer these "antique" globes.

### Mountings

The manner in which a globe is mounted affects the way in which it can be used. The simplest mounting is the "cradle" in which the globe rests in a wood or plastic holder. It can be manually turned in any way desired. The globe is not attached to it and an obvious disadvantage is that it may be knocked from its cradle and go bouncing across the floor, suffering a dent on each bounce.

More often the globe will be attached to a stand through the use of a half meridian arm, and permanently tilted at the standard 23-1/2 degree inclination. The educational benefit from this type of mounting is that the rotation of the earth can be visually demonstrated; one disadvantage is that the Antarctic is always at the bottom and therefore awkward to view. Consequently, variations are added to permit additional pivoting and rotation which go by a variety of terms. For example, Replogle has its "Gyromatic", Nystrom its "Gyro-Disc", and so on.

Other mounting features include full meridian rings which completely encircle the globe and horizontal rings, both of which permit additional calculations to be made with ease.

There are table mountings and floor mountings, the former being the least expensive. Floor models can be ordered to match the furniture, in sleek modern chrome models, colonial American styles, and even Duncan Phyfe.

### Non-Terrestrial Globes

In addition to globes of the earth, most companies offer lunar globes which are advertised to be made from "official NASA photos". Nystrom and Replogle have globes of Mars also. Several companies offer celestial globes depicting the theoretical heavenly sphere. And, with the classroom in mind, planetariums, which are groups of globes representing the solar system (each planet revolving around the sun), are available.

### Other Features

To increase the instructional value of globes and to make them more attractive for viewing, some models are illuminated by placing electric lights in them. Rand McNally and Replogle have some particularly handsome illuminated globes.

Another innovation is the inflatable globe made of vinyl plastic, such as Hammond's inflatable 13" globe. It has the advantage of being cheaper than the traditional metal or the newer rigid plastics, but is subject to puncture and other activities common to students. There is not yet, apparently, an inflatable globe with raised relief.

Prices

The most striking feature of globes, to the administrator at least, is their cost. One or two quality globes can exhaust a librarian's budget. The simplest 12" models begin around \$11.00, but to have the mountings and other desirable features can run the cost to well over \$20.00. A 12" illuminated globe with floor mounting can cost as much as \$135.00. Larger globes more appropriate for classroom situations begin around \$30.00, but can easily go up to several hundred dollars.

The "top of the line" models are almost out of the very world they represent. When your interior decorator is furnishing your office, you may want to specify the "Diplomat Traditional", a 32" globe with walnut cradle mounting, full meridian brass ring, illuminated and having a shipping weight of 185 pounds ("Ships in two cartons"). It is available from both Replogle and Denoyer-Geppert for \$1,500.00.

Conclusion

It is curious to note that while globes are widely praised and used for demonstrating geographic relationships, they appear to be, for the most part, little more than decorative touches in map libraries. Few libraries reporting their holdings in the WAML Directory of Map Collections (1969) listed more than half a dozen. Two notable exceptions were California State College at Long Beach, with 60 globes, and Western Washington State College with 20. Many of these are no doubt intended for classroom use where they have more value than when assembled together in a map library. The place of globes in map libraries is another topic, but current buying information on them should, it seems to me, be available wherever maps and other geographical materials are gathered. The following are some of the major producers-distributors in the United States, along with their addresses. Some of them have highly attractive and, for the non-specialist at any rate, quite informative catalogs.

Denoyer-Geppert  
5235 Ravenswood Avenue  
Chicago, Illinois 60640

Hammond, Inc.  
515 Valley Street  
Maplewood, New Jersey 07040

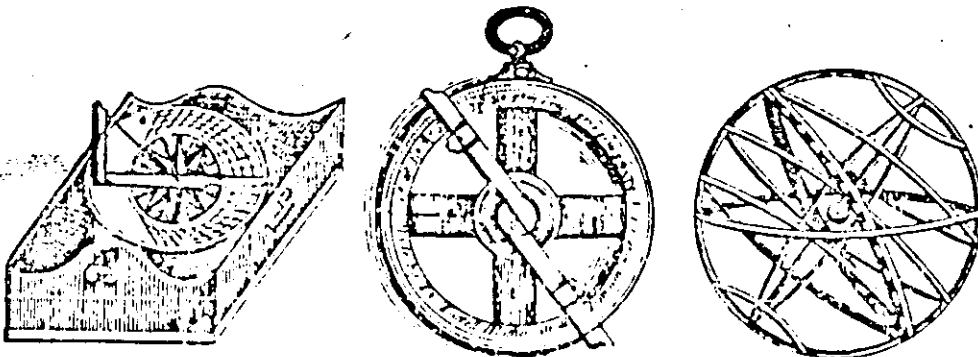
Modern School Supply  
524 East Jackson Street  
Goshen, Indiana 45626

A. J. Nystrom & Co.  
3333 Elston Avenue  
Chicago, Illinois 60618

Rand McNally & Co.  
P.O. Box 7600  
Chicago, Illinois 60680

Replogle Globes  
1901 North Narragansett Avenue  
Chicago, Illinois 60639

For a more complete listing of globe and map producers/distributors, see Audio-Visual Marketplace (Bowker, annual).





SUMMARY OF FEATURES AND COMMENTS

Company	Sizes and Prices			
	Below 12"	12"	16"	Larger
Denoyer-- Geppert	no	Several models beginning at \$16.00	Several models beginning at \$26.00	24" globes from \$175 depending on mounting. also 30" "Factual Relief Globe" from \$550
Hammond	no	Several models from \$10.95. Have 13" inflatable globes from \$12.50.	no	no
Modern School Supply	no	3 models from \$12.95.	One model on floor mounting at \$29.95	no
Nystrom	8" at \$4.95	Several from \$12.95	Several from \$41.00	20", 22", 24", 32"
Rand McNally	no	Several from \$12.95	Three models from \$175.00	no
Replogle	Several 6" globes at \$3.95. Also 10" globe at \$8.95	Several from \$12.95	Several from \$29.95	24" from \$900.00 and 32" from \$1,200.00

SUMMARY OF FEATURES AND COMMENTS

Company	Raised Relief	"Antique or Historical"	Illuminated	Celestial	Other	Additional Comments
Denoyer-- Geppert	Several	no	Only in the "Diplomat line	yes	Lunar globe	No separate globe and map catalog--all included in "social studies" sciences catalog along with the "Talking Torso" and other teaching aids
Hammond	No--but have shaded relief	no	One inflatable 13" globe and inflatable -lunar globe	no	Lunar globe	Limited globe selection
Modern School Supply	One 12" model	no	no	no	no	Sells Replogle globes-- markets them with record and 3D slides for teaching combinations
Nystrom	Yes in 12"	no	Yes in several sizes	yes	Lunar Mars	Probably the largest selection of instructional type globes and globe kits
Rand McNally	Yes in 12"	yes	Yes in 12" and 16"	Yes in 12"	Lunar	Has globe with atlas in base for \$49.95
Replogle	Yes in 12"	yes	12", 24", 32"	Yes in 12"	Lunar Mars	Attractive and varied line

## NEW MAPPING OF WESTERN NORTH AMERICA

compiled by

Mary Blakeley  
Map Librarian  
University of Arizona, Tucson

## ARIZONA

- Arizona dry hole map showing oil and gas fields, pipelines. 1:500,000. 1972. Petroleum Information Corporation, 1640 Grant Street, Denver, CO., 80203. \$15.
- Central and western Maricopa County, Arizona. Scale: 1 inch equals 3 miles. 1971. Maricopa County Parks and Recreational Dept., 4701 Washington St. Phoenix, AZ 85034. *free*
- Environmental zones of the major land resource areas, Arizona. 1:2,300,000. 1969. U.S. Soil Conservation Service, Room 209, 511 N.W. Broadway, Portland, OR 97209. *free*
- General soil map Cochise County, Arizona. 1:500,000. 1971. U.S. Soil Conservation Service, 6029 Federal Building, Phoenix, AZ 85025. *free*
- General soil map Santa Cruz County, Arizona. 1:250,000. 1971. U.S. Soil Conservation Service, 6029 Federal Building, Phoenix, AZ 85025. *free*
- Highway system, Colorado River Indian Agency, Arizona. (10 sheets) 1:125,000. 1972. U.S. Bureau of Indian Affairs, Phoenix Area Office, P.O. Box 7007, Phoenix, AZ 85011. *free*
- Highway system map, Hopi Indian Agency, Arizona. 1:125,000. 1971. U.S. Bureau of Indian Affairs, Phoenix Area Office, P.O. Box 7007, Phoenix, AZ 85011. *free*
- Highway system map, Salt River Indian Agency, Arizona. 1:125,000. 1971. U.S. Bureau of Indian Affairs, Phoenix, AZ 85011. *free*
- Major land resource areas, Arizona. 1:2,300,000. 1969. U.S. Soil Conservation Service, Room 209, 511 N.W. Broadway, Portland, OR 97209. *free*
- Sierra Vista, Arizona, community prospectus. Scale: varies. 1972. Arizona Dept. of Economic Planning and Development, Community Development Section, 3003 North Central Avenue, Suite 1704, Phoenix, AZ 85012. *free*
- State of Arizona subsurface temperature map. 1:1,000,000. 1972. Arizona Oil and Gas Conservation Commission, 4515 North 7th Avenue, Phoenix, AZ 85013. *free*
- Street map of Sierra Vista-Fort Huachuca [Arizona]. Scale: varies. 1972. First National Bank of Arizona, Sierra Vista, Arizona 85631. *free*

## COLORADO

Colorado highway system map. 1970. State Dept. of Highways, Planning & Research Division, Room 212, 4201 East Arkansas Ave., Denver, CO 80222. \$1. for map 18" x 30"; \$3. for map 36" x 60".

Colorful Colorado. ca. 1:1,000,000. 1972. State Dept. of Highways, Division of Highways, 4201 East Arkansas Ave., Denver, CO 80222. *free*

Denver and surrounding area map. Scale: 1 1/2 inch equals 1 mile. 1970. State Dept. of Highways, Planning & Research Division, Room 212, 4201 East Arkansas Ave., Denver, CO 80222. \$5.

Major land resource areas, Colorado. 1:1,500,000. 1971. U.S. Soil Conservation Service, Room 209, 511 N.W. Broadway, Portland, OR 97209. *free*

## NEW MEXICO

A guide to public lands in New Mexico: New Mexico recreation map. Scale: 1 inch equals 20 miles. 197-? U.S. Bureau of Land Management, P.O. Box 1449, Santa Fe, NM 87501. *free*

Indian Reservations, New Mexico and Colorado. Scale: 1 inch equals 22 miles. 1970. U.S. Bureau of Indian Affairs, Albuquerque Area Office, P.O. Box 8327, Albuquerque, NM 78108. *free*

Major land resource areas, New Mexico. 1:3,500,000. 1972. U.S. Soil Conservation Service, Room 209, 511 N.W. Broadway, Portland, OR 97209. *free*

Mining districts of mineral deposits of New Mexico (exclusive of oil and gas). 1:1,000,000. 1971. Charles A. Mardirosian, Utah Geological and Mineralogical Survey, 103 Utah Geological Survey Building, University of Utah, Salt Lake City, UT 84112. \$3.

## UTAH

Utah dry hole map, showing oil and gas, dry holes, pipelines. 1:500,000. 1972. Petroleum Information Corporation, 1640 Grant Street, Denver, CO 80203. \$15.

## REGIONAL

Permian Basin field map. Scale: 1 inch equals 12.12 miles. 1972. Midland Map Co., Box 1211, 106 North Marlenfeld, Midland, TX 78701. \$3.

Producing zone map of the Permian Basin (New Mexico and Texas). Scale: 1" equals 32,000 feet. 1970. Midland Map Co., 106 Marlenfeld, Box 1211, Midland, TX 79701. \$40.

Rocky Mountain Region wall map. 1:1,000,000. 1971. Petroleum Information Corporation, 1640 Grant Street, Denver, CO. 80203. \$45.

## Addenda - NEW MAPPING OF WESTERN NORTH AMERICA

by

Don P. Haacke  
Map Librarian  
Boise State College

## IDAHO

Ada County Street map, Boise metropolitan area. 1:2600 ft. 1973. Blue line print. Ada County Planning and Zoning Commission. Drafting Department, 525 West Jeffersen, Boise, Idaho. 83706. 50¢; or Boise Chamber of Commerce, 709 West Idaho, Boise, ID 83706.

Boise Metropolitan Transportation Study. Transportation Plan and Implementation Program. 1:1,000,000. July 1972. Ada County Highway District, 401 Broadway, Boise, ID 83706. *free*

Idaho Aeronautical Chart. 1:1,000,000. 1971. Idaho Department of Aeronautics, 3103 Airport Way, Boise, ID 83705. \$3.

Idaho Camping Guide Map. 1:1,000,000 (approx.). 1971. Idaho Department of Commerce and Development, Statehouse, Boise, ID 83706. *free*

Idaho Official Highway map. 1:22.5 miles. 1973. Idaho Department of Highways, 3311 West State Street, Boise, ID 83703. *free*

Idaho Parks and Outdoor Recreation Guide. 1:1,000,000. 1972. Idaho State Department of Commerce and Development, Statehouse, Boise, ID 83706. *free*

Idaho Rest Areas and State Parks. no scale indicated. 1972. Idaho Department of Highways, 3311 West State Street, Boise, ID 83703. *free*

Idaho. State legislative members, 42nd Idaho State Legislature, by district. no scale indicated. January 1973. Secretary of the Senate, Statehouse, Boise, ID 83706. *free*

Irrigated and Potentially Irrigable Lands. 1:500,000. 1970. Idaho Water Resource Board, 1365 North Orchard, Boise, ID 83704. *free*

Maps of Early Idaho. Scales vary. 1972. 26 maps. Western Guide Publishers. P.O. Box 1013, Corvallis, OR 97330. \$6.50

Maps of Flood Prone Areas in Idaho. 1:24,000. 1972. 72 sheets in set. U.S. Geological Survey, Water Resources Division, 550 West Fort Street, Boise, ID 83706. *free*

## COURSES FOR MAP LIBRARIANS

In London, June 1973:

The following information is submitted by Miss M. Abbott, Convenor, Map Curators' Group, British Cartographic Society:

**WORK WITH MAPS**

A practical course, to be held at ASLIB Headquarters, (3 Belgrave Square, London, S.W. 1) 19th - 21st June 1973 in conjunction with the Map Curators' Group, British Cartographic Society.

Aims and Objectives Maps are important sources of information but present problems not common to other printed documents. This course is intended for people working in map departments and libraries, of whatever level. It is concerned with the handling of map collections, with special emphasis on storage and conservation.

Fee Approx. \$70 (28 British pounds). This includes all papers, materials relating to the course, as well as morning coffee and afternoon tea, but not lunches.

Bookings Places are limited to 30. Bookings open when this notice is published. Members are advised to make provisional bookings by telephone. (Education Officer, Aslib)

Course Synopsis:

- Day I morning: "What I do and what my problems are." Introductory discussion between students and lecturers.
- Day I afternoon: Lecture, "Sources of information on maps and procurement."  
Lecture, "Map lore."
- Day II morning: "Map departments in Bloomsbury" Visits to Birkbeck College, University College, and the University of London Library.
- Day II afternoon: "Maps in an archival setting, with special emphasis on conservation", at the Public Record Office.
- Day III morning: "Problems in cataloging and classification", a demonstration and discussion.
- Day III afternoon: Lecture, "The Map librarian in the 1970's"  
General discussion on the course.

Further information is available from Miss Abbott, Department of Geography, Birkbeck College, University of London, 7-15 Gresse Street, London, W1P 1PA or phone 01-580-6622.

In San Jose, February 1973:

# MAPS in Community Affairs

*How to design and use MAPS for effective communication*

X451 (Community Studies)

The map is a dramatic, stimulating graphic language. It can build understanding whenever spatial relationships are involved. It can improve communication among different groups of people, and add materially to the effectiveness of planning, "selling," and carrying through projects in urban renewal, mass transportation, housing development, ecological studies, and other "man-land" projects.

This course will equip civic administrators, urban planners, community workers, technical draftsmen and illustrators, to:

- ✓ compile data into map form,
- ✓ understand the artistry of fine maps,
- ✓ use maps as working reference sources,
- ✓ generalize map data into intelligible form for public display and information.

Participants will analyze a wide variety of maps including those used and published by many city, county and regional governments throughout the Bay Area. These maps will be appraised against the continuing questions: What is the function of this map? Is it successful? Does it really do what it purports to do?

Participants will assemble in their individual notes and sketches a working outline of the best practices of cartography.

Psychologists report that people do not respond to "reality" as it is but rather to what they sense reality to be. The disparity is the cause of many heated arguments in meetings on public issues. Much of this difference would be resolved if the conditions, variables, and terms of these public issues were displayed objectively on a map.

**DATES** Ten Thursdays, 7-10 p.m.,  
February 22-May 3, 1973 (Holiday April 19)

**PLACE** Blackford Elementary School, Library  
1970 Willow Street, San Jose

**CREDIT/FEE** 3 quarter units, \$50 (credit optional)

## EXTENSION INSTRUCTOR

Joseph D. Harrington, B.Sc., is a consultant on cartography and instructor of cartography for University of California Extension, Berkeley. He was formerly Director of Aviation Education Products Development for Jeppesen and Co., Denver, and for six years Managing Director of Jeppesen's International Division. He was also a long-time senior executive of H.M. Gousha Co., San Jose, producers of commercial atlases, automobile road maps and topographic maps. He has worked with International airlines, the North Atlantic Treaty Organization, oil companies, large industrial concerns, banks, and government agencies.

In Palo Alto, February 1973:

**Maps as Graphic Language: New Uses for Traditional Materials**  
X338.11 (3)

A course for junior and senior high school teachers on the nature and use of maps as an imaginative laboratory activity and unifying device in the teaching of social sciences, history, earth science, and cultural geography. Included are demonstrations, descriptions of techniques and materials, and suggestions for problem-solving activities, appropriate for classroom use, which relate to current and historical issues. Fee: \$50.

Joseph Harrington, B.Sc.  
Independent consultant and  
instructor in cartography;  
former managing director,  
International Division,  
Jeppesen and Co.; chart  
designer

Palo Alto

(EDP E1406)

10 Wed., Feb. 14-Apr. 25, 7-10 p.m. (Holiday Apr. 18)  
Mitchell Park Center, Activities Rm. I, 3800 Middlefield Rd.

FOR INFORMATION Phone University of California Extension  
In Santa Cruz at (408) 429-2351

NEW MAPS AND PUBLICATIONS

United Nations List of National Parks and Equivalent Reserves. Brussels, Hayez, 1971. 2d Ed. maps, descriptions of 120<sup>4</sup> national parks in 140 countries. \$22.

Aerial photography of the entire Los Angeles basin and Orange County at the scale of 1" = 2000' has just been completed by Teledyne Geotronics of 725 East Third Street, Long Beach, California 90802 (phone 213/435-8326). This 1973 photographic coverage enables cartographers to develop topography up to scales of 1" = 400' with 10' contours.

Census of India 1961, Volume I part IX: Census Atlas. Edited by Phularani Sengupta. 51 x 41 cm. xiii, 423 p. 191 maps. Manager of Publications, Civil Lines, Delhi 6, 1971. Rs.133 or approx. \$48.



## NEW MAPS AND PUBLICATIONS (Continued):

Repertoire des Atlas de la Cartothèque. Compile par Yves Tessier.

Guides Bibliographiques, 7. Publications de la Bibliothèque de L'Université Laval, Québec, 1972. 141 p. 28cm.

This catalog lists all atlases held by the Map Library, University of Laval, as of July 1972. In mimeograph, 8 1/2 x 11 inch format, the catalog identifies 931 atlases of the World, North America, Canada, United States, Latin America, Europe, Asia, Africa, and Australia, (including the Atlantic, Pacific, Polar Regions, and the Moon).

The entries are classified according to the Library of Congress G schedule for Atlases, and are listed with call numbers in shelf-list order. Each entry is given in the original language of the publication (some transliterated to the Roman alphabet).

The 25 page index is arranged by Authors, Titles, and Geographical Regions.

This publication is available from: Direction generale, Bibliothèque de l'Université Laval, Québec 10, Canada; the sum of \$3.00 Canadian must be paid in advance (check or money order made payable to Université Laval).

The style is straight-forward, easy to read, and therefore, easy to use. Map librarians might use this catalog as a checklist, a style manual for compilation of similar publications, or an inter-library reference tool.

Exchange Bibliographies. Council of Planning Librarians. P.O. Box 229, Monticello, Illinois 61856.

Recent bibliographies may be purchased from the address given above. A list of bibliographies in print with price of individual numbers and the price of a standing order is available upon request.

Some examples:

- #339. The Techniques and Application of Aerial Photography to Anthropology: A Bibliography. By Laurence Kruckman, Department of Anthropology, Southern Illinois University, 1972. 25p. \$2.50
- #340. Urbanization in France and Italy, By Raffaella Nanetti, Graduate Student, University of Michigan. 1972. 45p. \$4.50
- #346. Working Notes and Bibliography on the Study and Shape in Human Geography and Planning. By Barry N. Boots, Ph.D., Assistant Professor of Geography, Columbia University and Lucian F. Lamoureux, Jr., M.S., Graduate Fellow, Rutgers University. 1972 22p. \$2.00
- #354. Index to CPL Exchange Bibliographies #1 - #353 (1958 - December 1972). 1973. 83p. \$2.00



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
San Francisco Bay Region Study  
345 Middlefield Road  
Menlo Park, CA 94025

February 16, 1973

Memorandum

To: Friends of the San Francisco Bay Region

From: Rachel Gulliver  
Staff Geologist

Subject: Slope Map of the San Francisco Bay Region

The new three-sheet "Slope Map of the San Francisco Bay Region," at 1:125,000 scale, has recently arrived from the printers. With the publication of this map, the major map products of the topographic portion of the Bay Region Study are now completed.

The steepness of terrain throughout the greater Bay Region is designated on the map by six color-coded slope zones: 0-5%, 5-15%, 15-30%, 30-50%, 50-70% slope, and 70% slope to vertical (a slope of 45° is defined as 100% slope). The map covers the same 10-county area, in the same three-sheet format as the Topographic Map.

The cost is \$1.75 per sheet, and copies can be obtained from:

Topographic Division -- Map Sales  
U. S. Geological Survey  
345 Middlefield Road  
Menlo Park, CA 94025  
(mailed on prepayment only)

or Public Inquiries Office  
U. S. Geological Survey  
555 Battery Street, Rm. 504  
San Francisco, CA  
(no mail requests)

Slope maps for smaller areas within the Bay Region at scales of 1:62,500 or 1:24,000 can be individually made on special request to the Topographic Division in Menlo Park. Interested public agencies should contact Chief, Western Mapping Center, U. S. Geological Survey, Menlo Park, California for further information.

## CATALOGING OF A MAP COLLECTION

by Gail N. Neddermeyer, Government Publications Librarian, U.C. Riverside

The cataloging of a map collection is a project to be undertaken only after a careful study of the present and future needs of the map collection and of the existing methods of cataloging maps. Even before a thorough study of cataloging systems is begun, an evaluation of the map collection should be made. Be realistic, if not conservative when making projections about the future of the collection. Most cataloging methods for maps can be expanded with relative ease, but contracting a system in periods of depression or staff reduction is much more difficult.

Such a study should include the following elements: (1) Who are the patrons of the map collection, and what are their needs? (2) What kind of use does the collection receive? (3) What is the present staffing level (both total F.T.E. and classification levels), and what can reasonably be expected in the future? (4) What is the budget, and what level of funding will be available in the following years? and (5) What facilities are and will be available?

After surveying the library's requirements, a study of existing map cataloging systems can be undertaken with a view towards selecting a method of cataloging that meets the needs of the collection. There are several widely used methods of map cataloging and many more systems developed by individual institutions. The sample cards illustrate various methods of cataloging. Each format has its own advantages and disadvantages depending upon the needs of a particular library. The elements common to all map cataloging are area, subject, date, scale, title, author, place of publication, publisher and call number. Some cataloging records also include other information such as projection, size, language and miscellaneous notes. The order of these elements varies, and it is the placement of them on the card that is of vital concern when choosing a cataloging system for a particular map collection.

#### CATALOGING USING AN AUTHOR MAIN ENTRY

For most map libraries, the exact bibliographic identification and physical description of a map is not the primary need. Rather, one needs to know if the collection contains a map of a particular area with certain characteristics, such as subject, scale or date. For this reason the use of the Anglo-American Cataloging Rules (Example A) is probably not the most ideal method of cataloging maps for most libraries. Since the Geography and Map Division of the Library of Congress is not presently publishing cards for sheet maps, choosing this cataloging system means that much time must be spent to produce detailed descriptive cataloging, including establishing main entries through time consuming bibliographic searching of the Library of Congress catalogs and other bibliographic sources. The determination of the authority for a map, particular foreign corporate authors, is not always a simple task. To create a good card catalog, the author entry must be carefully and consistently chosen. This type of cataloging cannot be done

by inexperienced students or library assistants. Another factor to consider is the usefulness of an author file for maps. For many map libraries, the amount of time that must be devoted to establishing author entries may far outweigh the utility of the file. The main entry once produced does not provide the most needed access to the maps -- that is by area and subject. This access must be provided through subject cataloging.

Call no.	Author.
	Title. Place of publication, Publisher, date of publication.
	map. Size. (Series)
	Scale.
	Notes.
	Tracings.

Example A<sup>1</sup>

There are, however, advantages for using the Anglo-American Cataloging Rules. Library patrons are familiar with this form of cataloging, and this method is widely used. Detailed bibliographic reference sources do exist, and if they are easily accessible, they can be utilized effectively. For many maps, particularly, older series, Library of Congress catalog copy is available. Records in this format are compatible with other library catalog cards and can be interfiled into a union or general card catalog if it is desirable. For some map libraries, particularly those with substantial collections of old or rare maps, where questions refer to specific editions or particular maps, the Library of Congress cataloging provides the standard bibliographic approach and may be the best choice. Another factor to consider is who does the cataloging; if the map cataloging is done by a central cataloging department, and no one person does only map cataloging, using the Anglo-American Cataloging Rules may result in simpler procedures, since the catalogers would not need to be familiar with entirely different cataloging procedures for books and maps.

#### CATALOGING USING AN AREA-SUBJECT MAIN ENTRY

Examples B and C illustrate various methods of cataloging maps assuming that the area, subject and date elements are of primary concern. For most map libraries one of these methods is probably more desirable than using the

<sup>1</sup>Anglo-American Cataloging Rules prepared by the American Library Association, the Library of Congress, the Library Association and the Canadian Library Association, North American Text (Chicago, American Library Association, 1967), pp. 272-281.

Anglo-American Cataloging Rules. Since most map reference questions are to maps of a certain area, this method of cataloging creates a main entry card that answers that question. An added entry card is not necessary unless additional areas or subjects, or the author or series need to be traced. Area-subject-date cataloging brings all maps on a particular subject of an area together in one place and thus makes searching the card catalog very simple.

Call no.	Heading area, subject, date.
	Title; author. Edition. Place, publisher, date.
	Scale. Number of sheets, measurements. Projection.
	Prime meridian. Series Note.
	Notes.
	List of entries.
	Added copies.

Example B<sup>2</sup>

MAPS call no.	added entries		
	Area	Subject	Date
	Title		
Series		Scale	
Place, Publisher		No. of sheets	

Example C<sup>3</sup>

<sup>2</sup>Samuel W. Boggs, The Classification and Cataloging of Maps and Atlases (New York, Special Libraries Association, 1945), p. 29.

<sup>3</sup>A simple form card that is used at the University of California, Riverside.

Sample cards D and E are examples of area-date-subject cataloging. By placing the date after the area, subject maps of one area are widely separated. In order to find maps of a particular subject and area the entire card file of that area must be searched. This seems to be a distinct disadvantage. If, on the other hand, the map collection consists of large numbers of maps of the same subject and area, and the date of the map is of prime importance, this cataloging system has its advantages.

<p>Area, date, subject.</p> <p>Title.</p> <p>Scale.</p> <p>Projection, if indicated.</p> <p>Author &amp;/or publisher.</p> <p>Place of publication, date.</p> <p>Size.</p> <p>Notes.</p>	<p>Call no.</p>
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○

Example D<sup>4</sup>

<p>Map Class. no.</p>	<p>AREA. DATE. SUBJECT. SCALE. SIZE.</p> <p>Authority.</p> <p>Title. Place of publication, Publisher if other than authority, date of publication.</p> <p>Notes.</p> <p>Tracings.</p>
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Example E<sup>5</sup>

<sup>4</sup>American Geographical Society of New York, Cataloging and Filing Rules for Maps and Atlases in the Society's Collection, rev. ed. (New York, 1969), p. 24.

<sup>5</sup>Special Libraries Association, Geography and Map Division, Committee on Map Cataloging, Final Report In the Division's Bulletin, no. 13 (October, 1953), pp. 19-24.

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The final examples illustrate two other cataloging methods that consider the third most important element either language or scale. In many map libraries, the scale of maps is more important than when the map was published; for these libraries Example G or a card with the elements in that order may be most desirable. Since most maps of foreign areas are in the vernacular language, language as a major element of the cataloging is really not very important unless the library is serving a specialized clientele where language is of concern.

Area		Subject		1. Language	
Title					
Date		Publisher			
Topography	Oil, Gas	Power	Airports	Agriculture	
Contours	Fields	Resources	Seaports	Crops	
Hachures	Wells	Facilities	Inland	Animals	
Layer color	Pipelines	Railroads	waterways	Land use	
Shd. relief	Refineries	Classified	Trade Data	Regions	
Geology	Minerals	Facilities	Population	Climate	
Areal	Deposits	Roads	Density	Water supply	
Economic	Mines	Classified	Distrib.	Vegetation	
Structural	Processing	Facilities	Charact.	cover	
	Manufacturing		Change	Soils	
	Plants		Migration	Compilation	
	Areas		Historical	Sources	

Example F<sup>6</sup>

1. Area		2. Subject		3. Scale		4. Accession no.	
5. Exact Title				6. Date		7. Edition	
						8. Language	
9. Sheet number/Name							
10. Publisher/Series no.							
11. Series		12. City Plan		13. Chart		14. Photomap	15. Other
16. Aeronautic				25. Geology		34. Vegetation	
17. Agriculture				26. Highways		35. Waterways	
18. Cadastral				27. Hydrographic		36. (Other)	
19. Climate				28. Natural Resources		37.	
20. Culture				29. Physical		38.	
21. Economic				30. Political		39.	
22. Ethnography				31. Railroads		40.	
23. Exploration				32. Soils		41.	
24. Geodesy				33. Topographic		42.	

Example G<sup>7</sup>

<sup>6</sup>Thomas R. Smith, The Map Collection in a General Library: A Manual for Classification and Processing Procedures (Lawrence, University of Kansas, 1961).

<sup>7</sup>U.S. Army Map Service, A Simplified Map Collection System (Washington, 1964?), p. 9.

Area-subject cataloging is much easier to generate than author main entry cataloging. By using existing lists of areas and subjects, the cataloging can be performed by relatively unskilled students or library assistants.

Area-subject cataloging also has disadvantages. There is no subject-area approach to maps unless this is provided by additional cataloging and card production. An area-subject catalog is not compatible with other library catalogs and must be maintained as a separate file. Standard bibliographic searching of an area-subject catalog is more difficult. All cataloging, even though simpler to do, must be original, since no current reference works, such as the Library of Congress catalogs, are published.

#### CATALOGING USING FORM CARDS

The use of form cards for cataloging maps has numerous advantages as well as some disadvantages. First, the form card is understandable to virtually all library users. In a map collection staffed primarily by the general reference or other non-map personnel, who are not familiar with map cataloging procedures, the form card is easy to read. A form card also allows for considerable self-service of the collection. Secondly, the fixed format assures uniformity in card typing. Cataloging using form cards is relatively simple. These cards, however, do have the definite disadvantage of limiting the amount of usable space on the card, but additional blank cards can be used for extended notes. Form cards are not compatible with other library catalog cards, and thus cannot be interfiled. And finally, form cards must be reproduced either within the library or by an outside source; obviously this is a cost factor to be considered.

When examining these cataloging systems and determining which of them best suits the needs of the collection and its patrons, decide whether any modifications might be desirable. There is no point in recording information that is not needed, particularly if processing time is at a premium.

#### CATALOGING MAPS IN SERIES

Maps in series present additional problems. The basic cataloging of a series is similar to that of a single map, but a decision must be made on what kind of records to keep for the individual sheets of the series. Map sheets can be listed serially by name or number on catalog cards, or they can be analyzed individually. Obviously, both methods are very time consuming and for most map libraries probably unnecessary.

Index maps provide the most useful access to series maps, and an annotated index map (coloring or marking the squares for maps in the collection) is a relatively efficient way to record holdings. Maps for which there are no printed indexes will have to have indexes made or, although less desirable, holdings will have to be listed by sheet name or number.

There are several ways to store indexes to maps. The Library of Congress



puts each map in a letter-size manila folder and files them in call number order in filing cabinets. For indexes of varying sizes this is a convenient way of storing them. It does, however, limit rapid scanning of the indexes. Another method for handling indexes is to place them in the

Another method for handling indexes is to place them in the map case with the map series. Here again, scanning of many indexes is difficult.

By mounting indexes on a standardized sheet or folding them to that size, they can be punched and filed in call number order in binders covering all or certain parts of the classification. Sheets about the size of the A.M.S. index maps are convenient, particularly in libraries that have large A.M.S. map collections. The U.S.G.S. indexes are, however, difficult to accommodate by folding, and indexes for heavily used states may be best filed separately with a reference under the appropriate call number in the binder.

#### AUTHORITY FOR AREA HEADINGS

When cataloging maps using any scheme it is necessary to establish authority lists for area and subject headings. Area headings are a constant problem in library cataloging. Unless one has a staff large enough to constantly recatalog maps as the names of countries change, a series of "see" and "see also" references or history cards must be used. Consistency of some kind is absolutely essential, particularly when the main entry for a map is an area.

One can use the map card catalog as an authority file and make decisions on new entries as they are needed. Using the Library of Congress catalogs is another method of determining main entries areas for cataloging. Another list, however, the "Area entries" in the American Geographical Society's Cataloging and Filing Rules for Maps and Atlases in the Society's Collection can be used. This publication is updated periodically, but additions will have to be made, nevertheless. This list, however, does bring together in one list most of the basic area headings, and provides the initial "see" and "see also" references that are needed in the card catalog.

When using an area main entry, a decision must be made as to what areas will be used. Using the Library of Congress rules, each jurisdiction becomes its own entry. Thus Riverside, Calif. is a main entry as is each island, river, county or state.

Other methods of defining areas involve the establishment of a hierarchy of jurisdictions. One can enter cities, counties and other areas of a state under the name of the state. By these rules, Riverside, California would be cataloged as California - Riverside. Another modification of the hierarchy system is used by the American Geographical Society. They use the form headings of "cities" and "section" to subdivide a jurisdiction. The specific city then becomes a subdivision of the form heading "cities." Again, Riverside, California becomes California - Cities - Riverside. This method of cataloging brings all maps of a certain kind together under one heading.

CONCLUSION

Automated methods of map cataloging have not been dealt with primarily because this is not an option available to most map libraries. If an automated cataloging system is used, the basic decisions on what is to be recorded and in what order must still be made. The real option open is the ability to make many more added entries and to record more information about a map at little additional cost.

As a final note, it should be understood that whatever method of cataloging is adopted, the decisions should be recorded in a procedure manual; for this is the only way to insure continuity and consistency with staff changes and the passage of time.

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DUPLICATE MAPS AVAILABLE

One year ago, March 1972 (Information Bulletin Vol. 3, No. 2, p. 36-37), we announced the availability of some duplicate maps. At that time they were being made available to California public institutions, priority being given to that class first, until September 1, 1972. After that date other institutions would be considered. We are now informed that several sets remain and will be distributed while they last. Perhaps some of you located outside of California put the matter aside, or did not see the original offer. Therefore, please take note and place your request as follows: address your request, on official letterhead, accompanied by \$1.50 in stamps to cover mailing and handling, to:

David L. Snyder  
Archivist II  
California State Archives  
1020 O Street, Room 200  
Sacramento, CA 95814

California irrigation maps by William Hammond Hall, State Engineer:

1. California. State Engineering Department.  
Topographical and Irrigation Map of the Great Central Valley of California. Embracing the Sacramento, San Joaquin, Tulare and Kern Valleys and the Bordering Foothills. [Compiled under the direction of] Wm. Ham[mond] Hall, State Engineer. 1877. Lith., Britton & Rey, S.F. [Scale approx. 1:380,000].
2. California. State Engineering Department.  
Detail Irrigation Map [of the southern half of the Great Central Valley of California]. [Compiled under the direction of] Wm. Ham[mond] Hall, State Engineer. Irrigation Data 1885. Scale 1 mile to 1 inch. [The following sheets are available: Bakersfield, Buena Vista Lake, Centerville and Kingsburgh, Delano and Poso, Fresno, Lemoore and Hanford, Merced, Porterville and Tipton, Traver and Tulare, and Visalia.] Each sheet measures 21 x 28 in. Scale 1:63,360.
3. California. State Engineering Department.  
Irrigation Region of Los Angeles and San Bernardino Counties, California; to accompany Report on Irrigation and Water Supply. [Compiled under the direction of] Wm. Ham[mond] Hall, State Engineer, 1888. 1 1/2 in. to 1 mile. George Sandow, Draughtsman. [12 sheets, 31 x 23 in. each; index sheet included. Scale 1:42,240]

The University of Oregon Library Map Room offers the following, just for the cost of postage:

Map Room  
165 Condon Hall  
Univ. of Oregon  
Eugene, OR 97403

Geological Survey of Japan.  
Geological maps of the Coal fields of Japan.  
Pts. VII (1967), IX - X (1969), contained in  
11" x 8" folders. Maps & sections with each  
part, 1:20,000. Text mostly in Japanese.

## RESTORATION AND PRESERVATION OF MAPS: Three New Offerings

by

R. Philip Hoehn  
 Map Librarian, Bancroft Library  
 University of California, Berkeley

Three new works on restoration and preservation which are of interest to map librarians have recently been published. As might be expected, none of the three meets all the needs or answers all the questions which map librarians have. Two of the items were written for an audience wider than that of the map librarian and thus contain varying amounts of extraneous information. The third is a scientific study in map preservation. While we await the definitive work on map preservation and restoration, all three of these documents are well worth reading.

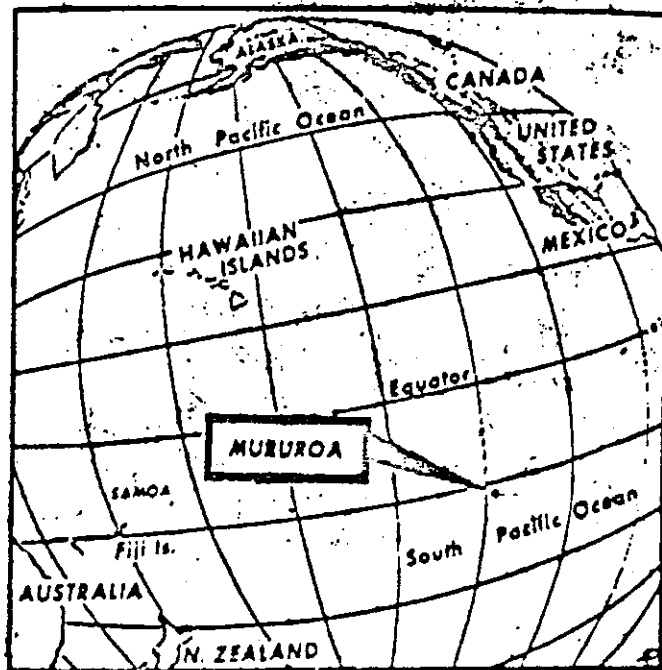
Per E. Guldbeck's The Care of Historical Collections; A Conservation Handbook for the Nonspecialist (Nashville, American Association for State and Local History, 1972, 169 p.) is designed for the modern museum. As such, it discusses a broad range of museum objects including those constructed of wood, ceramic, stone, glass and textiles, as well as maps, books and manuscripts. There is some valuable information for map librarians, including storage, fire protection, shipping, the repair workshop. Of particular importance, however, is the chapter of 10 pages on paper. The shortness of this section is deceiving, for many very useful suggestions are presented there in a compact way. It covers information on preservation not included in the Bardle book discussed below. Bibliographies are included at the ends of chapters. The book is recommended for purchase not only by the small historical society or museum which houses a variety of historical objects, but also for the institution which seeks practical information on map preservation.

A book which contains more detailed information on map restoration is David B. Wardle's Document Repair (London, 1971, Society of Archivists Handbook v.1, 84 pages). It is a "how to do it" guide to the repair of paper, parchment and vellum documents. There is a specific section on the repair of maps, but almost the entire work is of direct relevance to map restoration. Some of the procedures recommended may apply very well to a large institution, but will have to be modified for use by the small library. For example, the section on maintaining work registers for material being repaired is probably not necessary or practical for any institutions except the very largest. Some of the practices described seem rather eccentric to the North American map librarian, for example, the author's recommendation to sew maps into manilla-paper folders and to sew rolled maps onto the flaps of storage cylinders (page 39). It would have been helpful if the author had included more material on map preservation, such as a discussion of acid free folders, map cases, and temperature and humidity control for proper storage. Since the book is concerned more with repair than with preservation, however, this is probably not a fair criticism. The book includes sections on the forms and causes of damage, materials and equipment needed for repair, methods of repair, lamination, preservative treatment short of repair, paste and size, and deacidification. An appendix lists sources for material and equipment needed for repair, but unfortunately for North Amer-

icans, most of these sources are in Great Britain. The book provides a good discussion of the state of the art of document restoration at the present time. It is recommended for purchase by all libraries having map collections or interested in paper repair and restoration.

"Maps: Their Deterioration and Preservation" by Richard D. Smith (Special Libraries, February 1972, pp. 59-68) discusses the properties of the paper in twelve USGS maps printed between 1918 and 1971. Mr. Smith's study examines extending the useful life of these maps (estimated at 100 years) through temperature and humidity controls in the storage area and by deacidification. Smith concludes that non-aqueous treatment is more effective than aqueous methods in protecting maps against the development of acidity in the future. A reprint of Smith's article would be a useful item to keep on file in any map collection.

These three works are welcome contributions to the field of map restoration and preservation. It is hoped, however, that a detailed work concentrating on the unique problems of maps will eventually be forthcoming.



Atomic testing by France is expected over the remote island of Mururoa, in the Pacific basin, either in June or July. Threats of diplomatic retaliation against France by countries in the basin have arisen. (AP Wirephoto) 2/73

MAP CLASSIFICATION:  
Basic Considerations and a Comparison of Systems\*

by

Barbara Christy

OUTLINE OF PRESENTATION

- I. Some basic considerations
  - A. Why classify? (What do you want the system to do?)
  - B. What goal is sought? (What do you want the system to be?)
  - C. What to expect of a map classification system.
  - D. Notation and the catalog.
  - E. Almost any system must cope with some of the problems.

II. Comparison of several Map Classification Systems

Systems considered are those developed by:

American Geographical Society  
Army Map Service  
M. Foncin at the Bibliotheque Nationale  
Boggs and Lewis  
Dewey Decimal Classification  
Library of Congress

Each system is treated more or less as follows:

- a) Brief characterization
- b) Advantages and disadvantages (in respect to map collections that are not small).
- c) Evaluation with respect to the UCSB Map Room, its use and users.  
note: The Map Room at UCSB [U.C. Santa Barbara] is a unit of the Sciences-Engineering Library. It is designed to be a medium-sized academic research library serving the faculty, graduates, and undergraduates. Type of use covers the range from casual interest and class assignments to teaching and research.

Comments about the UCSB investigation into a modified LC system.

III. The question of uniformity in map classification by map libraries.

- A. Advantages
- B. Problems

IV. Systems in present use.

- A. Systems peculiar to a given library.
- B. Systems proposed for widespread adoption.

V. Reference Sources.

\*The author, former Map Librarian at University of California, Santa Barbara, presented this paper to the Spring Meeting of the Western Association of Map Libraries, held at UC Berkeley, April 25, 1969.

## I. Some basic considerations

## A. Why classify? (What do you want the notation system to do?)

## 1. Control:

- a. Bibliographic control--unique identification of each map or map series by notation code.
- b. Filing control--easy and efficient maintenance of correct filing order. Notation provides an "address" for each map.
- c. Circulation control--simple and exact means of map identification that can be used in a lending system.

## 2. Retrieval:

Notation should aid in retrieval by arranging maps in a predictable order so that efficient reference service can be given. This implies the capability of retrieving all significant maps relevant to a patron's question.

Notation should also facilitate browsing by organizing maps in a meaningful way.

## B. What goal is sought? (What do you want the system to be?)

- 1. An ideal ("best") system? or
- 2. Designed to serve best the needs and limitations of a
  - a. given library? or,
  - b. given set of libraries? (such as those of a university system or region).

## C. What to expect of a map classification system.

(This list is not arranged in order of priority.)

- 1. Consistency and predictability. (This facilitates #2, below.)
- 2. Ease of understanding, assigning, applying and reading the notation. This promotes the workability and economy of the system by simplifying:
  - a. training of assistants
  - b. assignment of notation
  - c. filing and refiling the maps
  - d. retrieval
- 3. Correlation with queries, i.e., the degree to which the notation will indicate the components of a "standard map reference question."<sup>1</sup> These components, in order of priority, have been found to be:
  - a. area-subject, or subject-area,
  - b. scale,
  - c. date,
  - d. producer (issuing agency).

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<sup>1</sup> Map literature and experience in map reference service have shown that there are predictable elements stated or implied in most patron's queries. These elements, stated in order of priority are listed above. (C.3;a-d) Sample queries (the patron may or may not give correct information):

- a) "Can you get me a map showing the railroad lines in Newark, New Jersey?"
- b) "I need a glaciation map of Alaska; I think there is one published by the United States Geological Survey in the I series."
- c) "Do you have a map of the Goleta Valley as it appeared in the 1840's?"
- d) "I need a map showing archaeological sites in Mexico."

4. Availability of detailed guidelines on how to apply the system (in order to be consistent internally as well as with users of the same system). By "detailed guidelines" is meant numerous and clear.
  - a. definitions (with examples) for all critical concepts and categories including those with only occasional use.
  - b. rules (with examples)
  - c. copious notes within the schedule.
5. Availability of up-to-date, authoritative revisions (including refined definitions, additional rules and notes). Otherwise, consistency cannot be maintained with other users of the system. Moreover, periodic revision is crucial on account of:
  - a. political change and instability.
  - b. rapid expansion of knowledge.
    - 1) Appearance of new important specialities as well as
    - 2) Increasing attention to interdisciplinary approaches.
    - 3) Uneven development and shifting emphasis among the various fields of knowledge. This implies that some subject categories will need more frequent up-dating than others.
6. Workability. Has the system been tested and found to work well?
7. Local suitability (to a given library). It is very important to consider what is lost and what is gained by adaptation of a general system for use in a particular situation. The "best" general system may give poor service under certain local conditions. To determine local suitability the external factors of time, labor, and cost must be considered in addition to the internal factors (# 1-6, above).

#### D. Notation and the catalog.

It is important to examine their separate roles and interrelationship in relation to overall goals.

1. Is notation to serve simply as an "address"?
2. To what extent do you want notation to overlap onto the function of a catalog? Can notation be designed to serve in place of a catalog?
3. Does the prospect of a catalog sometime in the future affect the choice of a classification system?
4. Is classification necessary if a detailed catalog is available? (Consider the argument of Mile. M. Foncin of the Bibliotheque Nationale, see below.)

#### E. Common problems

Almost any classification system must cope with some of the same problems among which are the following:

1. How to handle map "series" (group of maps that, for various reasons, seem to belong together) and "sets" (maps which have been cut into a few separate sections).
  - a. How should "series" be defined?
  - b. Should at least some "series" be split up in order to bring maps of the same geographic area together?
2. How to handle "regions" (areas not having universally recognized, clear boundaries and/or areas of cultural or historic interest; e.g., polar regions, the Mediterranean region, Bible lands, the Islamic World).



Some aspects of the problem:

- 1) Designation of regions.
- 2) Consistent procedures for classifying maps which overlap regions.
- 3) efficient retrieval of regional maps.

### 3. Subject classification

Some aspects of the problem:

1. Designation of subjects.
  - a. What to include? Omit?
  - b. To what depth (how specific)?
2. Arrangement of subjects
 

Some of the possible options are to arrange subjects:

  - a. alphabetically by specific subject, or
  - b. alphabetically by broad subject
    - 1) then alphabetically by subdivisions, or
    - 2) by some arbitrary or logical order.
3. Expansion of knowledge such that not only is there additional information about established fields but there are new concepts and specialities as well as new broad approaches (inter-disciplinary fields such as environmental science). By consequence, revision is necessary to keep the system up-to-date in order to adequately serve users.
4. Political instability and change.
 

Most changes fall into one of three groups:

  - a. "splitting": political subdivision of a former entity.
 

e.g., Indochina  
Equatorial Africa  
Austro-Hungarian Empire
  - b. "Lumping": political union or federation of former separate entities.
 

e.g., Tanzania  
Federation of the West Indies (later disbanded)  
Ifni with Morocco
  - c. Name-changing
 

e.g., Madagascar to Malagasy Republic  
French Somaliland to Afars and Issas  
Aden to Southern Yemen

## II. Comparison of several map classification systems

### American Geographical Society (AGS)

The present system was designed to fit economically with an established operation. Extensive changes were precluded by considerations of time and cost.

The form of notation is an alphanumeric code with area represented by number (with decimals as needed) and subject represented by capital letters (and numbers as needed).

- Examples:
- |     |        |                     |
|-----|--------|---------------------|
| (1) | 800    | U.S.                |
|     | G      | geology             |
| (2) | 765.91 | Chesterfield Island |
|     | H      | hydrography         |

The notation correlates with the standard reference questions as to area and subject but other elements are not shown. The subject classification is not developed in detail. A closer grouping of related maps is possible with the LC system.

#### Army Map Service (AMS)

The Topographic Map Library of the Army Map Service is maintained for the Department of Defense. It is not a standard system designed for public use. Its users are professional cartographers and geodesists. Though not obligated to provide extensive service to other map libraries, the AMS does reply to requests for information and sends revisions of its system as they are published. However, the AMS strongly cautions that collections smaller than theirs will not find this system feasible.

The Army Map Service uses notation based on an alphanumeric code that represents information in the following sequence:

area (continents or regions)  
 type (extent and mode of area coverage, e.g., by "series")  
 subject  
 authority (producer)  
 scale (given in full)

Example:	924M	Wurtemberg; Germany
	3	"series"
	30	topographic
	90000	authority
	50000	scale

The notation correlates well with the standard reference question although type designation is of minor interest in respect to most academic users. Date, on the other hand, is often a critical element but is not shown in AMS notation. Sufficient working tools (such as the complete random number code for producers) are not easily available. Designation of areas and regions seems inappropriate and too detailed for a non-exhaustive academic research collection. [See *Illustration No. 1 at end of paper for: "Example of regional categories".*]

#### Bibliothèque Nationale

Mlle. M. Foncin argues that it is not possible to file together sufficient maps of like area and subject to justify the time and cost of classification. Better to put the effort into detailed cataloging. Moreover, (I am sure she would argue) it is misleading to imply that most maps can be arranged to correlate with the elements of a standard reference question.

She suggests that notation be discarded in favor of a filing system based on size, date and acquisition number (in that order). Retrieval is achieved by consulting a detailed catalog and, presumably, pulling many drawers in different places.

This filing system economizes on storage space and the time and money that otherwise would have gone into classification. It would seem, however, that retrieval time is lengthy because like maps are widely scattered.

In our evaluation of systems and discussion of classification problems we at UCSB have often looked to Mlle. Foncin's argument in order to clarify and focus our objectives. But we always returned to the opinion that at least a large portion of maps for any given area and subject can be notated in such a way that they are filed close together. In other words, a fairly good correlation of notation with the standard reference question can be achieved.

#### Boggs and Lewis System of Map Classification

This system is quite similar to that of the Library of Congress in its major area and subject categories. Area classification is on a geographical basis using a numerical code (with decimals).

Examples of Area Classification: 740 South America

425.226 Kamchatka Peninsula

Although subject classification is similar to the Library of Congress in overall arrangement and broad categories, Boggs and Lewis have developed their subject subdivisions more logically and in greater detail. [See *Illustration No. 2 at end of paper for: "Example of Boggs & Lewis Area Classification & Subject Classification"*]

Examples of notation:

204 gme                      Railway map of Europe...  
1931

204 caq                      Geologic map of Europe (hypothetical example)  
1952

This system was rejected at UCSB because (1) it is out-of-date and no revision is in sight, (2) the alphabetical code for subjects appears strange to work with and is cumbersome in some cases (e.g., subjects represented by three letters: caa, cab, caq, eab). The Library of Congress code is simpler to work with and remember.

Compare: Geology,

Boggs and Lewis	caq
Library of Congress	C5

In spite of these difficulties, the Boggs and Lewis subject classification can be a very useful supplement to the Library of Congress subject list because of its elaborate development and more logical way of organizing and subarranging some of the broad subject areas.

#### Dewey Decimal Classification (DDC)

The emphasis of Dewey's system of classification is practicality (in storage and retrieval) and consistency. Logic is not insisted upon at the expense of making the system work in practice. But whereas the previously mentioned classification systems were designed for use with maps, this one is primarily considered with books.

The main value of this system is simplicity but this is the very thing that makes Dewey Decimal classification impractical for academic research map collections.

#### Universal Decimal Classification (UDC)

This is a complex, expandible decimal system (not alphanumeric). Both areas and subjects are given numerical codes. The classification of political entities and regions is hierarchically developed on a geographical basis. Precise identification of regions is possible by using a grid system based on 10 degree "Marsden" squares.

Examples of the notation for maps:

(63)	area	Ethiopia
581.9	subject	plant geography
(054.3)	form--map	map
(4)		Europe
55		geology
(084.3-16)		map within a given scale range
(100)		Earth. International

The notation correlates with the standard research question as to area and subject but omits date, producer, and sometimes scale. The long, elaborate call numbers are not easy to recognize or remember; this increases the chance for error in transcribing and filing and makes the training of assistants more difficult as well. The subject classification seems to lack the sort of development appropriate to map collections.

#### Library of Congress Classification, G Schedule, Map Section. (LC)

Probably the most useful, up-to-date map classification system is that of the Library of Congress.

The present Library of Congress classification scheme for maps first appeared in mimeograph form in 1946. This was prompted by the Army Map Service project for distributing maps to libraries throughout the country at the close of World War II. After trial and use for several years, the scheme...was published as part of the LC Classification, Class G, 3d ed. in 1954...., additions and changes have been made as need has appeared. [A reprint with additions published in 1966 is latest version of the complete schedule].<sup>1</sup>

The MARC II project which is now in progress will cover maps as well as books and should reduce the time and cost of cataloging and classification for those libraries adopting the Library of Congress system. Both books and maps can be handled under the same automated system.

The map notation consists of a fairly simple, clear alphanumeric code representing the information in the following sequence:

<sup>1</sup> Buffam, Charles W., "Additions and Changes in the LC Atlas and Map Classification", in SLA, Geography and Map Division. Bulletin, Sept. 1963, p. 13.

- Line 1 Location within the total LC classification, namely the "G" section.  
 Area (3 digits)  
 Special designation (4th digit)  
 where 0 = general  
 1 = subject  
 2 = region or natural feature  
 3 = political subdivision  
 4 = city or town  
 Series symbol ("s") in the case of a series
- Line 2 Subject code (only for subject maps)
- Line 3 Date (single sheet maps) or truncated scale (series maps).
- Line 4 Producer

Examples:	Series Map:	Single Sheet Map:
	G6231	G3700
	.C5	1952
	25	.N3
	.S3	

For a detailed explanation of how the system works, refer to Carlos Hagen's paper "The Library of Congress System of Classification for Maps" which is probably available from the Map Library, UCLA.

Summary of the area and subject classification (compare to Boggs and Lewis): [*See Illustration No. 3 at end of paper for: "LC Summary of Subject Subdivisions, and Outline of Area Numerical Designation."*]

The notation correlates excellently with the standard reference question and is easy to understand and recall. The classification schedule is elaborately developed on the whole but subjects are unevenly treated (e.g., agriculture is extremely detailed whereas the physical sciences are more briefly treated). Some sections seem inadequate for an academic research library, (e.g., oceanography) and others seem ambiguous in designation (e.g., Fish and Fisheries). Related geographic areas are filed together; this should minimize retrieval time and aid in browsing to some extent. One difficulty with the area classification is the designation of regions. They seem difficult to retrieve particularly due to overlap in some cases. A detailed index with maps seems necessary.

Example of overlap: G4130: West North Central States. [The area between the Great Lakes and the Rocky Mountains; also the area between the Great Lakes and the Pacific Ocean.]

Testing (use) of the (non-automated) classification system for maps has been done by the Library of Congress and some other collections. Experience shows that for areas it is basically a good workable system if kept current. At present it is in need of changes (e.g., Africa). Although the classification schedule continues to be updated this is not done as frequently or as thoroughly as I believe is needed. Map libraries wishing to be compatible with the LC system must wait for notice on how to handle areas that undergo political change.

There is no immediate prospect for an extensive revision of the LC Classification, Class G. A reprint, with additions, published in 1966, is available from the Superintendent of Documents. Changes in the classification are noted in the quarterly "LC Classification--Additions and Changes." (W.W. Ristow, Chief of Map Division, Library of Congress, letter (September 5, 1967) to Robert Sivers, Map Librarian, UCSB).

Some modifications in rules for entry and description, and revisions and expansions of the G schedule are anticipated as the project MARC II progresses. (W.W. Ristow, letter (September 9, 1968) to Barbara Christy, Map Librarian, UCSB).

Some additional problems with the present system:

1. Incomplete classification. The Library of Congress has not classified the majority of its present collection and only a limited number of proof slips are available.
2. Time lag in revision (changes and additions).
3. Reclassification of several areas is sometimes necessitated by political change in one or two countries (e.g., East Africa).
4. Lack of expansion space leading to "boxing in" (e.g., Tanzania. see G8440, Tanganyika).
5. Insufficient guidelines. The lack of thorough, unequivocal set of definitions, rules, and notes makes it difficult to apply the system consistent with other libraries using the same classification schedule.

#### UCSB Study of a Modified Library of Congress System

##### A. Principal modifications:

1. Rearrangement of area sequence.
2. Regrouping of regions.

##### B. Similarities and differences:

This system is based on and very similar to the Library of Congress alphanumerical system but differs from it mainly in the following ways:

1. Arrangement of countries, islands, etc. is alphabetical (under any given major area) rather than geographical (under a given region)--the major area divisions remain essentially the same with the exception of the U.S.S.R. which is relocated to Asia.
2. Regions are grouped together directly under the area of which they represent a part (instead of being scattered in geographical order throughout the area).
3. The modified schedule follows a simple scheme that is much more consistent and predictable than the Library of Congress schedule.

##### C. Implementation: no decision on implementing these modifications has been made. A large number of maps (c.35,000) have already been notated according to the Library of Congress G schedule but the changes under consideration do not affect these portions of the collection.

D. Aims of the system.

1. To serve the local needs of efficient retrieval and convenience in working with the collection.
2. To be consistent, predictable, and therefore relatively easy to understand and use.
  - a. Facilitates training of assistants.
  - b. Facilitates retrieval.
  - c. Facilitates browsing and staff work among the maps. Less frequent need to consult cumbersome aids such as detailed indexes.

E. Evaluation:

1. The classification system and the notation itself is relatively easy to understand and use. It is more consistent and predictable than the present LC schedule.
2. The notation correlates excellently with the standard reference question.
3. Additions are made by simple insertion (utilizing an insertion symbol if natural space is not available). Therefore, less reclassification is required than in the Library of Congress system when political changes of the "split" or "lump" type occur.
4. On the other hand, more reclassification is required in the case of name-changing (by a country that retains essentially the same boundaries). However, a study of political changes within Africa for the 20th Century shows that more "splitting" and "lumping" occurred than changes in name. This indicates that the time-cost factor of reclassification in this system may not be as great as one might think and as we first anticipated.
5. Adoption of this system would mean lack of uniformity with map libraries adopting the authorized Library of Congress system. In so doing, the time-cost factor might be increased but so far this has not been analyzed.

III. Uniformity, i.e., adoption of the same classification system by a group of libraries.

A. Advantages

1. Cooperation and sharing of work load. Should save time and cost of classification.
2. "Common language"--easy to communicate.
3. Classed union catalog.

B. Problems

1. Local conditions (including type of use of the collection). The advantage of a common language "should not be permitted to outweigh a real and permanent local need." (Dewey, Decimal Classification..., Vol. 1, 1965, p. 38).
2. Variable application of the given classification system:
  - a. Not all aspects of classification are "routine" but rather require judgment and interpretation.
    - e.g., Classification of nautical charts covering coastal waters of some but not all oceans.
    - e.g., Classification of regional maps (as, Arctic geology, lands on both sides of the Atlantic Ocean).
    - e.g., Relative importance of multiple subjects.
  - b. Clear, detailed unequivocal definitions, rules, and notes must accompany the classification schedule in order that

decisions in each of the participating libraries be similar. e.g., What constitutes a "series"?, a "general" map (more than two subjects)?

note: The Library of Congress G Schedule for maps is wanting in this respect.

3. Some libraries already have variously classified collections.

#### IV. Some systems in present use.

##### A. Systems peculiar to a given library:

1. McMaster University, Hamilton College in Ontario, Canada.

The previously existing map classifications were rejected on a common basis. These systems have been developed for conventional catalogs which do not have the freedom associated with an automated handling system...existing systems could be modified to satisfy these requirements, but they involve unnecessary restrictions for an automated system. (M.F. Goodchild, letter (June 19, 1967) to Robert Sivers).

2. University of California, Berkeley.

The alphanumerical notation gives area, subject, and date (e.g., 85.K4 M5 1965 for "Kenya, rainfall and population density").

3. American Geographical Society.

4. Army Map Service.

Also used locally by California State College at San Fernando.

##### B. Systems proposed for widespread adoption.

1. Dewey Decimal Classification
2. Universal Decimal Classification
3. Boggs and Lewis Classification
4. Library of Congress, G schedule, Map section.
  - a. A local library using this system is the University of California, Riverside. The New York Public Library intends to adopt it when funds become available.
  - b. Modified Library of Congress systems:
    - 1) Columbia University.
    - 2) University of California, Los Angeles and Santa Cruz.
      - a) Some blocks of area numbers have been reassigned.
      - b) Conventional cuttering for producers is not used.
    - 3) University of Illinois Library uses Library of Congress area classification but Boggs and Lewis subject classification.

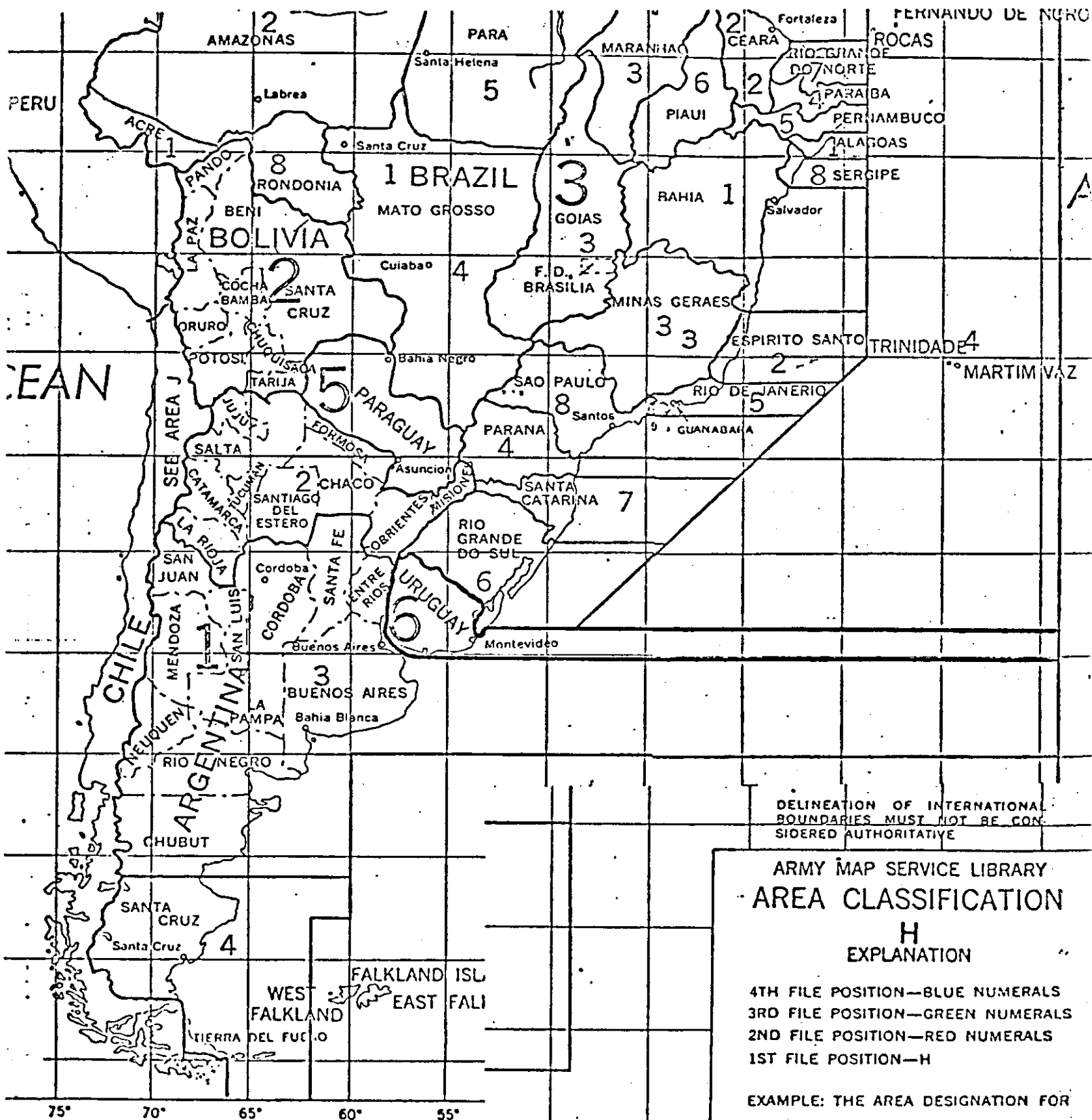
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Correspondence (1965-1969) with various map libraries.  
Discussions with Robert Sivers, Unit Head, Map Room, Sciences-Engineering Library, University of California, Santa Barbara.



Example of regional categories:



DELINEATION OF INTERNATIONAL BOUNDARIES MUST NOT BE CONSIDERED AUTHORITATIVE

ARMY MAP SERVICE LIBRARY  
AREA CLASSIFICATION

H  
EXPLANATION

- 4TH FILE POSITION—BLUE NUMERALS
- 3RD FILE POSITION—GREEN NUMERALS
- 2ND FILE POSITION—RED NUMERALS
- 1ST FILE POSITION—H

EXAMPLE: THE AREA DESIGNATION FOR PARANA STATE, BRAZIL WOULD BE 433H

Area Classification  
Subject Classification...

000	The Universe (astronomic charts; solar system, etc.)
100	World (and larger parts)
200,300	Europe
400	Asia
500	Africa
600	North America (area as a whole; and parts exclusive of Mexico, and the West Indies)
700	Latin America (Mexico, Central America, West Indies, and inclusive of European colonies and possessions)
800	Australia and New Zealand
900	Oceans (including islands therein not adjacent to the mainland)

Illustration No. 2

a  
at  
b  
bd  
bf  
bm  
c  
ca  
cab  
caq  
cb  
cc  
cd  
d  
de  
df  
dr  
e  
cab  
ec  
ec  
f  
g  
gd  
ge  
gf  
gh  
gm  
h  
n  
p

General maps  
Travel, exploration and discovery  
Mathematical geography  
Movements of the earth  
Geodetic surveys; Triangulation  
Cartography  
Physical geography  
Distribution of land and water  
Geophysics and geochemistry  
Geology  
Geomorphology  
Oceanography  
Meteorology and climatology  
Biogeography  
Ecology  
Plant geography (phytogeography)  
Animal geography (zoogeography)  
Human geography  
Anthropogeography  
Geography of population  
Social and cultural geography  
Political geography  
Economic geography  
Agriculture  
Water resources  
Energy; Fuel and power  
Geography of manufacturing and other industries  
Technology; Engineering; Public works  
Transportation and communication  
Military and naval geography and science  
History of geographical knowledge  
History

L.C. Summary of the area and subject classification (compare to Boggs and Lewis):

Illustration No. 3

SUMMARY OF SUBJECT SUBDIVISIONS

A	Special category atlases and maps.
B	Mathematical geography. Cartography and surveying.
C	Physical sciences.
D	Biogeography.
E	Human and cultural geography.
F	Political geography.
G	Economic geography.
H	Mines and mineral resources.
J	Agriculture.
K	Forests and forestry.
L	Fisheries.
M	Manufacturing and processing.
N	Technology. Engineering. Public works.
P	Transportation and communication.
Q	Commerce and trade. Finance.
R	Military and naval geography.
S	Historical geography.

3160-3171  
3180  
3190-3192  
3200-3206  
3210-3272

Celestial globes. Terrestrial globes.  
Universe.  
Celestial maps.  
World.  
Northern and Southern Hemispheres. Tropics, polar regions, etc.  
By country.  
America. Western Hemisphere.  
North America.  
Continental waters. Coasts.  
Canada. Greenland. St. Pierre and Miquelon Islands.  
United States. Alaska, etc.  
Caribbean area.  
Latin America.  
Mexico.  
Central America.  
West Indies.  
South America.  
Eurasia, Africa, etc. Eastern Hemisphere.  
Europe and Africa, Eurasia, etc.  
Europe (exclusive of Russia).  
Russia. Union of Soviet Socialist Republics (U. S. S. R.).  
Asia (exclusive of Russia).  
Malay Archipelago.  
Africa.  
Australasia.  
Oceans. Oceanic islands.  
Antarctica.  
Unlocalized maps (Hypothetical, Imaginary, unidentified).

3290-9084  
3300-5184  
3310-3351  
3380-3654  
3690-4381  
4390-4392  
4400-5663  
4410-4763  
4800-4884  
4900-5184  
5200-5663  
5670-9084  
5680-5696  
5700-6966  
7000-7338  
7400-8194  
8050-8194  
8200-8904  
8950-9084  
9100-9797  
9800-9802  
9900-9980

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