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 ..."
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Editor 1971/72 Stanley D. Stevens, Map Librarian, University Library
University of California, Santa Cruz, CA 95060

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The recent publication of the National Atlas of the United States was significant in many respects. Not only was it a welcomed addition to the list of national atlases of nations of the world, but it received more attention than one ordinarily expects of an atlas in the magazines and newspapers directed at the general public not the specialist.

As a result of this general interest one would expect an equivalent interest now or shortly in the future in similarly designed atlases for state, regional, or even more narrowly for city-county areas. Indeed Eda Yonge suggests in her Geographical Review article on regional atlases that "the sheer size and complexity of the United States make it difficult to produce a general atlas of real intrinsic value. Perhaps the solution lies in a series of regional atlases."

Yet the problems of constructing the National Atlas delayed its publication for eight years after its announcement, even with the resources of the United States government behind it. It cannot be seen therefore that the publication of other atlases for geographically smaller units will be issued on any logical fashion or in any timely basis.

A discussion of such atlases is not even a frequent occurrence. The most comprehensive significant article to appear on the subject is "Anglo-American State and Provincial Thematic Atlases/A Survey and Bibliography" by Richard Stephenson and Mary Galneder in the Canadian Cartographer, June 1969, P. 15-45.

As a historical summary, the Stephenson-Galneder article is valuable. For its technical analysis of the problems of constructing state atlases it is a thorough and valuable summary of the problem involved. The article is unique for its bibliography of modern state atlases, with detailed descriptions and references to reviews which allows one to seek further opinions on the particular atlas.

The authors of the article state "there has been a dramatic increase in the publication of thematic atlases for individual states and provinces." Yet one wonders how aware generally most librarians would be of this or even if this was so. A contrasting observation, for instance, is made by Maurice McLaugh in the March 1971 SLA Bulletin of the Geography and Map Division article "Geographies, Atlases, and special references on the states and provinces of Anglo-America: A Bibliography." He states on page 41 that "there is a scarcity of state atlases of recent date which adequately cover the continent".

Mr. Fetros, a Member of WAML, is a frequent contributor to its programs. He presented this paper at the Fall Meeting, UC Santa Barbara, Oct. 22, 1971. Some of his recent work appears in the Sept. 1971 (No. 85), Bulletin SLA G & MD.
The McGaugh article should be considered an amendment to the Stephenson-Galneder article, updating it and also expanding coverage into areas not specifically atlases but containing numerous maps.

The Stephenson-Galneder article notes that the majority of state atlases are "unappealing volumes containing incredibly poor maps lacking in good cartographic judgment".

Yet is this a deterrent in collection building? Indeed, is a review of a state atlas even needed? The number of states with more than one atlas is so small that regardless of quality (assuming a reasonable price) most libraries will have to buy it.

An article in the Winter 1970 RQ, "Mediocrity Better than Nothing", by Harry Bauer brings this out. The thesis of the author is that the library buys the first of an item that comes to market, be it good, bad, or indifferent. Interestingly, he uses an image to underline this point that if Columbus had waited for the perfection of hydrography instead of using whatever navigational charts that were at hand, he never would have sailed.

Bauer states that "nearly every conceivable reference book has some merit and will serve good purpose until something better comes to hand".

In the area of state atlases this is important to consider. The amount of state atlases is not large. Few states have more than one atlas that is current. Also since most atlases rely on census data, theoretically, to be perfect, each state should have one atlas every ten years.

Few achieve this. Then too, the publishers of state atlases are the most conglomerate hodge podge imaginable. Stephenson-Galneder note the publishers of state thematic atlases as being of 3 types: commercial, university, government agencies. Many of the commercial publishers however are small, local firms which publish little and make few formal announcements of publication and consequently are difficult to locate through BIF or book trade directories. Are reviews to be relied on as a selection tool? Stephenson-Galneder list and describe 55 atlases. They note reviews which they found in a chock of geographic journals. Only 15 atlases have reviews cited.

What this means is that regardless of reviews, one orders what one notices, and fast, otherwise it will be difficult to trace the publication even if the publication has not in the meantime gone out of print.

Clarke's article in RQ on state and local atlases notes the Catalog of Copyright Entries, Third Series, part 6, Maps and Atlases as a source for locating atlases and their publishers; but since this is only semi-annual will the library be able to react fast enough in obtaining material before it goes out of print?

A particularly difficult problem in building the collection of state atlases is that some material useful as state atlases will not be labeled as such.

These are the types of books issued as supplements to State Blue Books or
as booklets designed to attract industries. This type of material is difficult to isolate as being useful strictly to map librarians without inspection. While some contain sufficient maps to warrant inclusion in a map library, others do not. Stephenson-Gelman note this by indicating some of the thematic atlases of universities and governments are part of larger non-atlas series.

Finding this kind of state atlas would be like searching for a needle in a haystack. The only suggestion that can be made in locating them is that the interested librarian periodically visit other libraries, browsing generally to see what random material they have collected for their state roster files or pamphlet files. Two publications could be useful in picking up these isolated but useful maps: Industrial Development which lists in each publication a variety of industrial promotional brochures, and the Marketing Information Guide a bibliography of books, articles, and pamphlets of use to business.

Examples of useful material in this category:

Montana Statistical Review
State Department of Planning and Economic Development
Capitol Post Office
Helena, Montana 59601

Maps include: Montana's National Forests
Median income of Families, by County
Indian Reservations
Irrigated acres
Persons per square mile
Rate of county increase or decrease
Uurban-rural population distribution

Wisconsin Facts for Industry
State of Wisconsin Dept. of Local Affairs and Development
Division of State Economic Development
1 West Wilson Street
Madison, Wisconsin 53702
1968

Divided into sections, each with a variety of maps: people, water, transportation, minerals, education, agriculture, and forest resources.

Industrial Survey of Georgia
Georgia Chamber of Commerce
1200 Commerce Building
Atlanta, Georgia 30303

Contains several maps illustrating various facets of the state such as industrial revenue authorities, electric distribution, gas facilities, Georgia Parks, etc.
Arizona Statistical Review
Valley National Bank
Box 71
Phoenix, Arizona 85000

Basically statistically oriented, but this does include several maps such as maps illustrating the growth of the Phoenix and Tucson incorporated area, national forests and Indian reservations in the state, irrigated areas in the state, etc.

Connecticut Market Data
Connecticut Development Commission
State Office Building
Hartford, Connecticut 06100

"The map section presents definitions of the state used by various governmental agencies, in the economic and business sector, with whom the public has frequent contact."

Industrial Resources, Kentucky
Kentucky, Department of Commerce
Frankfort, Kentucky 40601
18 p. + 9p. of maps

Maps include:
- railroads
- highway network
- airports
- navigation and recreation
- minerals
- gas transmission

Since Canadian Cartographer is not a widely circulated periodical, a brief summary of the Stephenson-Galneder article might not be redundant.

The first state atlas in Anglo-America was the Atlas of the State of South Carolina published in 1825 consisting of detailed maps of each district in the state showing roads, towns, administrative boundaries, and other data.

In 1829, the Atlas of the State of New York was published showing similar data. However not until after the American Civil War were other state atlases to appear. Walter Ristow noted in an article in Minnesota History in Fall 1966, p.120, that 30 atlases covering 22 states were published between 1866 and 1887. The purpose of all the early state atlases was home use. The chief feature of each was county reference maps showing place name information. In some, statistical tables, lithographs of important buildings, and textual material of the state is included.

The 1868 Atlas of the State of Ohio contained thematic maps of temperature and rainfall, geology, and railroads. This inspired other publishers to adopt the idea and add more topical maps.

By 1874 in the Illustrated Historical Atlas of the State of Minnesota such unusual thematic maps as the density of total population, deaths from
consumption, the distribution of Swedish and Norwegian population in the
Northeastern United States were included.

While it might be assumed that these early atlases were individual
productions there apparently were individuals who attempted to systematize
their production. One of these was Alfred Andreas. A New Yorker, he joined
two Illinois map makers after the Civil War as a salesman for their maps.
While working for them he envisioned the possibilities of county atlases with
illustrations and biographical material. Forming the firm of Andreas, Lyter
and Company in Dubuque, Iowa he published a number of county atlases that
proved quite profitable. From county atlases he went onto state atlases be-
inning in 1873 with a state atlas for Minnesota. For this he not only hired
surveyors to draw the maps but he sent out a team of canvassers soliciting
subscriptions as well as contracts for biographical sketches and portraits.
For an additional consideration a farmer could have his name inscribed on the
county map with the extent of his acreage. After the publication of the Min-
nesota State Atlas, Andreas produced an atlas for Iowa with the same team;
then formed a new firm of Baskin, Forster, and Company and produced one of
Indiana. The number of subscribers to these early atlases was not insignifi-
cant especially since subscribers could pay to have pictures and biographical
material included on themselves. The Iowa Atlas, for instance, had 22,000
subscribers while the Indiana Atlas had 12,000.

After the Indiana Atlas, Andreas turned to publishing regional and city
histories. His only other state atlas was the Atlas of the Dakotas published
in 1884 by R. R. Donnelley in Chicago.

Even more interesting as a subject for study of early state and local
atlas producers might be the Beers Family. The author index to United States
Atlases published by the Library of Congress lists the following:

D. G. Beers and Company
Daniel G. Beers
Daniel G. Beers and J. Lanagan
F. W. Beers and Company
Frederick W. Beers
Frederick W. Beers and Louis Cramer
Frederick W. Beers and S. B. Cochran
J. H. Beers and Company
James L. Beers and C. H. Bord
S. W. Beers and Daniel Beers
Ellis Beers and Company
Upton Beers and Company
James B. Beers and Company

9 county, 1 state atlas
7 county, 1 state
1 county
4 county, 1 fire district
75 county, 5 city, 1 oil region
1 county
1 county
15 county
2 city
8 county
1 county, 2 city
1 county
2 city, 1 county

While the inclusion of topical maps in general state atlases continued
into the twentieth century, the first completely thematic atlas did not appear
until 1935 when the State Planning Board of Maine published an inventory of
state resources in graphic form. Other states soon followed with similar
atlases. Possibly, Stephenson-Galnder note, economic conditions during the
depression may have caused an interest in this type of mapping.
The first state atlas designed expressly for students was the 1951 *Minnesota in Maps*. More elaborate maps designed to attract industry were also produced after this date.

Stephenson-Galneder traced 88 atlases published from 1935-1968. Of these, they noted that they were designed for four purposes: promotional, resources inventory, general, and educational.

Promotional atlases, they note, are more lavish since they are designed to extoll the virtues of the state.

Resource inventory atlases prepared to identify and portray cartographically human and natural resources of the state are the most comprehensive and directed toward a wide audience.

General atlases are also designed for a broad audience while educational atlases are meant to be used to supplement the teaching of the local geography and history.

The physical properties of the atlases noted varied. The most popular size was 8 1/2 by 11 inches perhaps because it was a size conveniently accommodated in a school notebook.

Five forms of binding are used — paperbound, spiral bound, hard bound, post bound and looseleaf. Most popular is paperbinding and spiral binding.

Black and white maps predominate, but 60% use occasional color plates or one or two colors on some maps. Color sometimes was used however to dress up the appearance of the atlas without a resulting improvement in quality of the atlas. One state atlas, *Montana in Maps*, prints separate maps in different colors varying a strictly one color monotony.

Publishers as have been mentioned are commercial, universities, and government agencies. Only two examples of major map makers involved in this work however are noted: the *California Atlas* by Hammond, and the Champion Map Corporation's *State of North Carolina Atlas*.

As to cartography — Stephenson-Galneder notes that lack of time, assistance and equipment often produces poor maps. Dot maps were frequently used to portray distribution but because unsatisfactory values were selected it resulted in ineffective distribution maps. Another common occurrence was placement of dots uniformly across a political unit without regard for the actual geographical pattern on the land. A common problem in state atlases was lack of scale. State atlases with no indication of projection, latitude or longitude, or indication of the state in its larger regional setting were also noted.

A few atlases are revised periodically and the revision allows for improvement in cartographic representation. The *Atlas of Texas* for instance was first printed in 1955, and revised in 1958, 1963, and 1967.

Content of the state atlases varied, which reflects the diverse purposes of the atlases: the training and interests of the authors, the basic research
materials available, the existing maps which could be utilized, and the time and funds available for preparation.

Of the types of maps included, the total number of maps were analyzed in four categories:

<table>
<thead>
<tr>
<th>Category</th>
<th>TOTAL</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>97</td>
<td>3</td>
</tr>
<tr>
<td>Physical Environment</td>
<td>510</td>
<td>18</td>
</tr>
<tr>
<td>Economic</td>
<td>1780</td>
<td>63</td>
</tr>
<tr>
<td>Social-Cultural</td>
<td>444</td>
<td>16</td>
</tr>
<tr>
<td>TOTAL</td>
<td>2831</td>
<td>100</td>
</tr>
</tbody>
</table>

Of the 444 social-cultural maps, only 141, or 5% of the total number of maps examined, were devoted to other than population or historical maps. Galnder-Stephenson seem surprised by this since data on health, vital statistics, housing and politics is readily available and maps on these topics contribute to the understanding of the state and its cultural geography.

Other lacks noted in the atlases were the lack of a gazetteer to locate places on the maps, the lack of large scale sectional maps presenting states in detail, and a lack of map sequences locating a map in its region, county or the world. Graphs, tables, and vertical aerial photographs were also noted as being found infrequently.

One important aspect of the state and county atlases might be noted here. Walter Ristow notes in "The Emergence of Maps in Libraries" [Special Libraries July-August 1967] that heavily glazed pulp paper was commonly used between 1870 and 1920 for color lithography and that this type of paper is subject to chemical deterioration. Ristow notes the preservation of the early county atlases published on this paper between 1865 and 1890 should be a main concern of map librarians. Microfilms have limitations as substitutes for the printed atlases and Ristow describes what procedure should be followed "to preserve a reasonable number of copies of these historical documents".

Recent reviews of state atlases point out several interesting factors. Many state atlases are the result of cooperation between geographers of the universities and members of the state industrial development commissions. This is an example of how a geographer can promote the interests of the state and in so doing gain additional prestige and support among the citizens of the state for his profession.

However, state atlases [of this type] are designed to present facts in their most attractive light. Consequently, the possibility exists that some data will be deliberately not included in the atlases. For instance, a review of the Kansas State Atlas notes that there is no mapping of the recurrence of droughts or of soil erosion.

The newer atlases being produced are seeking to make themselves more useful by using maps, graphs, sketches, photographs, and text to explain and amplify the mapped data. The North Carolina Atlas is cited as an example in a review. This atlas also emphasizes thematic maps by directing users looking for place name information to look elsewhere.
The publication of state atlases was begun by 1825. The publication of county atlases was not begun in the U.S. however until about the time of the Civil War. New techniques of reproducing maps and the low cost of paper stimulated the production of county maps especially in the middle west. The Map of Berks County, Pennsylvania, published in 1861 in Philadelphia, is the earliest known U.S. county atlas. The history of county atlases is much older however. In England, Christopher Saxton produced a collection of County maps in 1579.

City atlases present a different story. One of the recognized obligations of the public library, which should go unchallenged, is to its political jurisdiction. The forms this takes are many: the establishment of California or local history rooms, collecting books by or about local authors, encouraging the donation of manuscripts by local authors and artifacts of local history, building vertical file collections of local material, indexing local newspapers or magazines, etc. In all its variations, however, there would seem to be one area which because of the uniqueness of the material must be actively collected and which is not at the moment satisfactorily covered or considered in this regard by public librarians. This is a collection of maps pertaining to the political jurisdiction of the library or to any natural geographical area the library may fall into.

Yet, even understanding the importance of collecting local maps and local thematic maps does not remove the problems that exist in building the collections. At the present time the interest in local thematic maps is increasing rapidly. An observer at a desk at a large general library would be aware that this general interest is widespread and is not restricted to only the scholarly sort. Reasons for this interest arrive from several sources which are well exploited by the news media:

1. Interest in school desegregation which has made people aware of school boundaries.
2. Interest in poverty elections.
3. Interest in model city plans.
4. Reapportionment of legislative districts.
5. Earthquakes which increase interest in fault lines or location of public facilities in relation to them.
6. Interest in rapid transit and other transport services.
7. The ecological obsession with its concern on urbanization and wilderness.

All these elements combined make having quick access to thematic maps for small areas an essential. Jack Clarke in his RJ article in the Spring 1970 issue notes that "thousands of words and whole columns of figures would be required to show the complex relationships between city and country that are often graphically illustrated in a single map".

United States Atlases does list innumerable early city atlases. Unfortunately I have not seen those early city atlases but would think they are more street maps or property ownership maps than a widespread selection of maps of the city on different topics. In essence they are possibly closer to the type of atlas Thomas Brothers produces which they call "Popular Street Atlas".
One city atlas that would seem to be similar to the national atlases and the state atlases mentioned in this paper is the Pergamon Press Atlas of London and the London Region. Published in two parts in 1968-1969, this work tells us as much as possible about Greater London through the medium of distributional and other thematic maps. This atlas was issued in loose maps designed to be folded and inserted unbound in a container. The advantage of this was to use the maps flat and be able to pin them up and examine them in different groupings. The maps cover three subject areas: social, population and its characteristics including housing, and transportation. A June 1969 Geographical Journal review pointed out the problems of producing this atlas, problems which relate to the production of any atlas but possibly more pertinent when thinking of atlases for small areas. These are:

1. Whom should the atlas aim to serve?
2. How wide an area should be covered?
3. How should maps be brought together?
4. Should coverage be balanced and comprehensive?
5. How should data be portrayed?

Another type of city atlas that might be mentioned at this point is the Sanborn Map Company maps. This old established firm founded in 1866 produces diagrammatic atlases of urban places for insurers, assessors, planners, utilities, market analysts, engineers, and appraisers. They have issued more than 10,000 atlases comprising approximately 191,000 map sheets for nearly all places in the United States with a population of 2,500 or more. These atlases are valuable reference and sales aids for many types of business and by municipal departments for use in assessment, zoning, and planning.

In California, the Geography Department of San Fernando Valley State College in Northridge acts as a depository of superseded or obsolete maps for the company.

The SIA Bulletin of the Geography and Map Division for December 1970 should be referred to for Stanley Stevens' article "Color Microfilming of Sanborn Maps for a Local History Collection", which was a summary of a talk given at the Spring 1970 WAML meeting.

The company produces a superb brochure on its products, indicating how they are made. Copies should be still available for reference by writing to the home office at 629 Fifth Avenue, Pelham, New York; ask for "Sanborn Services for City and Regional Planners".

A unique atlas that fits almost no category is the Urban Atlas: 20 American Cities by Joseph Passoneau and Richard Saul Wurman (M.I.T. Press, 1966). Library Journal for September 15, 1971 illustrates a page from this atlas in an article on the community and the library, making further reference to a special issue of Design Quarterly [Number 80, 1971] which shows the city or urban area in various visual conceptions.

The purpose of the Urban Atlas was to visually present three categories of urban information: 1) the nature of the people, 2) the nature of the land and its uses, and 3) the movement of people, goods, and information. This is done using comparable data mapped at the same scale for a number of cities.
The purpose of the atlas was to fill the gap that exists in visual summaries of the U.S. Census information.

One key to the problem of collecting thematic local maps, is the maintenance of an index file which would analyze books and material much more closely than regular cataloging to bring out this aspect of the map collection.

How does this solve the problem? In any library of a smaller size, separately issued maps are usually not cataloged. Thus, a request for a map will require browsing by some method through the collection to determine if the map is available. If the map is issued as part of an atlas, then cataloging in almost any library will give access. But only if the entire atlas is on the topic which will be of special interest to a particular library will this be so. A collection of maps of the U.S. would not be analyzed closely enough to indicate whether there are any maps in it of the San Francisco area, for instance. Thus regardless of the cataloging, the material is likely to be inaccessible for ready access. If the map is issued within a book to illuminate some point in the text, the map will be totally lost without tedious scanning of the book collection to see if maps are included.

The solution to all this is to create a special index file separate from the catalog in the History or Special Collections Department, where entries can be made to locate material which includes maps of these areas the library will feel itself particularly responsible for.

The procedure to be used in starting a project of this sort requires a great deal of dexterity since there will be few bibliographies that would provide, in one source, a multitude of references. Once started as a project, however, I think that the enthusiasm of the staff members could possibly be of great value in locating sources of maps in material and even in locating copies of the maps themselves.

One valuable tool which should not be overlooked in starting a project of this sort is the G.K. Hall Index to Maps in Books and Periodicals, Map Department, American Geographical Society, 1966. This catalog is unique since it is an index to maps appearing in books and periodicals. It is both a subject and a geographical-political approach with a chronological arrangement within the geographical divisions. The importance of this work is that maps appearing in books and periodicals "are of special significance to researchers, for they supply the most recent data. Very often, however, such maps are lost in the avalanche of new publications, particularly because they are not included in any map bibliographies".

Turning to the volume which includes San Francisco, we note 54 references under San Francisco. For example, Anthropological Records for 1957 included in an article on the "Aboriginal population of Alameda and Contra Costa Counties, California" two maps of San Francisco dated 1776 and 1781 as well as an outline map of tribal groups and archaeological habitation sites. Also maps of San Francisco Bay for 1779, 1789, 1790, and 1847 which appeared in an article in the Pacific Historical Review in November 1947.

The format used by the American Geographic Society may be used as a guide
to establishing a file of index cards. Note that this is geographical-political and within this, chronological. The important aspect of the index is the subject selection for the maps and for noting on the index card the date and the source.

Choice of subject headings for the maps located must depend a great deal on the nature of the material indexed. Since, in any case, the index will not be formally cataloged there is no necessity for utilizing the subject headings in the general catalog. Flexibility is once again the key since the value of any index is increased by using the terminology in the fashion it will be asked for by the public. Using this as a framework for indexing, the search can be made. The value of starting with the American Geographical Society index is that it does suggest the various places that maps may be found. For instance, in preparing an index of this nature Anthropological Records would hardly likely have been searched for maps of San Francisco prepared in 1776 and 1781.

Besides the AGS index, one cannot overlook the card catalog [of your own library] for what it might produce. Under the specific area under consideration or a broader geographic area many references might be discovered either to atlases specifically or to books on the area which might be searched for maps.

The procedure then is basically one of skimming books and indexing maps found in order to build up the basic index. Once this is done the index can be increased in value by searching for references in as many sources as time allows. For instance, Writings on American History indexes books and magazines in a geographical arrangement. Thus the section on the Pacific States and California can be reviewed for references which can be then searched for maps. The index at the back of each volume would also provide references to the sections in each volume which pertain to the area and are in the subject sections of this index — military history, political history, social history, etc. The completeness of the bibliographic reference makes this a very useful source. Many of the references note that the book or article cited includes maps. The two references by Brepper in the appended bibliography [to this paper] were obtained by reviewing Writings on American History.

America: History and Life is another valuable tool. This is an abstracting service in the field of American history. One part of the publication is arranged geographically giving U.S., regional, state, and local history abstracts. This publication is issued four times a year with abstracts in three issues and an annual index in the fourth issue.

Much material useful in creating either a city atlas or an index to city thematic maps is found in city documents or in master plans prepared in the community by city and regional planners. Clarke notes in his RA article that the statistics in these reports are usually prepared "in graphic form in order to enhance the chances for adoption of these plans by local authorities who are more apt to appreciate a visual presentation of data." Clarke notes that diagrams, maps, and charts are often-segregated in an atlas volume accompanying the text. The San Francisco Community Renewal Program Fact Book, 1961, prepared for San Francisco by Arthur B. Little, is an example. Acquiring these city documents and plans is sometimes difficult. Clarke notes PAIS,
the "Reports" of the American Society of Planning Officials, and the weekly checklist published by the Joint Reference Library in Chicago: "Recent Publication on Governmental Problem".

One source of material of the greatest importance, too frequently overlooked, is the daily newspapers. It is not my purpose here to decry the fact that newspapers, especially the mass circulation newspapers, are generally locked down upon by librarians. One Head Librarian once stated in a meeting that there was no need to buy out of town newspapers, since, if you'd read one of them you'd read them all. A professor at a leading library school once noted that if a person spent more than ten minutes a day on a newspaper he was wasting his time.

The maps printed in the newspaper may be most ephemeral. Yet since they are closely allied to the news of that particular day they provide unusually valuable datable material. They show proposed plans or give the status of some project at a particular point in time.

The number of these maps which appear in the newspapers is greater than might be expected. In a short period in the San Francisco papers the following maps appeared:

1. Map showing the site of a new lower Market Street building (SF Chronicle Oct. 31, 1969)
2. Map of Redwood National Park, southern Unit (SF Chronicle Nov. 4, 69)
4. SF draft districts (SF Examiner-Chronicle Oct. 19, 1969)
5. Election boundaries for SF poverty districts (SF Chronicle Sept. 1, 71)
6. Horseshoe plan for SF School zones (SF Chronicle July 10, 1971)
7. SF Map of murder (SF Examiner Aug. 7, 1969)
8. SF Burglary Map (SF Examiner Dec. 30, 1969)

An article in the San Francisco Chronicle on October 30, 1969 concerning bones found when excavating for the subway made a reference to an 1853 map which showed the site to be 50-65 feet below the surface. Interestingly enough a library patron noticing this brief reference asked for a map of the bay shoreline in 1853.

But the interest in thematic maps requires for many patrons more direct access than going through an index. The demands of city agencies, or students on the high school level, are for something which they can review quickly to see if it meets their needs.

What is the solution? Why not make a city or local atlas yourself. This can be very easily done by getting duplicates of city newspapers, magazines, or city documents with maps. The maps can be removed and mounted and inserted in a three-ring binder in any fashion the librarian thinks most useful.

Organizing such an atlas for a local area could profitably utilize the
general format of the *Facts for Industry* published by the Wisconsin Dept. of Local Affairs and Development. This statistical compilation with numerous maps is divided into the following categories:

1. Physical setting
2. People
3. Transportation
4. Water
5. Labor-------------------no maps
6. Labor Relations--------no maps
7. Unemployment Compensation---no maps
8. Workmen's Compensation---no maps
9. Labor Standards and Minimum Wages---no maps
10. Utilities
11. Markets
12. Income
13. Taxes------------------no maps
14. Education
15. R & D------------------no maps
16. Minerals
17. Manufacturing
18. Agriculture
19. Forest resources
20. Recreation
21. Community Development
22. Executive View--------no maps

Eight of the 22 categories contain no maps and would not seem suitable for inclusion in a localized map atlas. The other categories however would seem to provide a ready made outline that could be followed.

It is interesting to ponder that if local libraries each did this sort of thing if it would not prove the value of a library network. This, of course, assumes that some centralized direction is afforded individual libraries in establishing projects of this nature.

In conclusion, I hope that these random remarks on state and local atlases have suggested areas for further investigations from a historical standpoint and will prove useful in augmenting the collections of map libraries represented by Association members.

REFERENCES FOR FURTHER STUDY OF STATE AND LOCAL ATLASES

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   On lithographed views and portraits in this atlas.
   Relates to the business of publishing county and state atlases.
   Subtitled: "A thorough ventilation of the numerous schemes conducted by wandering canvassers together with the various advertising dodges for the swindling of the public".

Discusses and describes regional maps and atlases. Pages 299 - 321 cover North American regional maps and atlases with historical and critical notes.


[See a Review of this work infra. EDITOR]


Uses regional in the sense of less than the world, so most of the atlases cited are national atlases. Cites no American atlases.


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Ref: Economic Geography. October 1970:635
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North Dakota
March 1971:61
THINGS OF THE PAST: Service Station Maps of City are Getting Scarce

by Ruth Glushien - Bee Staff Writer

"Sacramento tourists may eventually face navigational problems, for a traditional direction-finder - the city street map - is fast becoming a thing of the past.

Two companies - Shell and American - have stopped printing any city maps for Sacramento. And Union Oil, Atlantic Richfield, and Chevron dealers are rationing their supply.

Only a few companies, including Gulf, Mobil, and Texaco, still pass out the maps freely.

'Some people coming here have been to four or five other stations without finding a map', says one Sacramento Texaco dealer.

'We don't get maps like we used to', adds a downtown Standard station owner.

Why are the city maps disappearing? The companies say it is a matter of economies. With maps costing 4 to 5 cents each, it is impractical to some companies' view to give free maps away in unlimited quantity. 'We used to hand out 9 1/2 million maps annually in the seven western states', says a Chevron official. 'Now we give out 8 million. Sacramento city maps have suffered along with the rest of them'.

'We thought of selling them (as Chevron does in British Columbia)', the official continues, 'but the dealers were against it. They thought charging for a map was pretty chintzy'.

'We've discontinued maps in all cities with a volume of 18,000 (maps) or less', says an American Oil representative. 'It's not worth our while to print that few. Generally speaking, a station attendant can tell a driver how to get where he wants to go'.

There is no other very good alternative source of directions. Both the Chamber of Commerce and the Convention Bureau get their maps from the oil companies also.

'I drove into a gas station in Truckee', says a Sacramentoan who owns a Shell station. 'When I saw he had a Sacramento city map, I asked for it before it disappeared. I hadn't seen one since April'.

Nammacher's thesis is based on a comprehensive study of the areal resource atlas, a type which is becoming increasingly important as an accessory to regional development studies. Nammacher's earlier work, as one of the chief cartographers for the Atlas of Manitoba published in 1960, no doubt gave him the grasp of technical detail needed to analyze this particular type of atlas.

The major portion of the thesis is taken up with the analysis of areal resource atlases. No bibliography being available at the time, Nammacher conducted by mail a nationwide survey. He wrote to the director of economic development for each of the state and provincial governments in North America. The six questions he asked were: "1. Do you presently have an official economic/natural resource atlas publication of the state? 2. Do you have an atlas of your state which was produced by some other organization but with state cooperation? 3. Do you have any independently produced economic/natural resource atlases of your state? 4. Where can the above atlases be procured? 5. Are you contemplating the future production of an economic/natural resource atlas? When? 6. Please list other atlases of the state (Hist. Highway, etc.)."

The survey was "very successful" as fifty-seven of the sixty states and provinces replied not only with answers to his questionnaire but some also with letters that further elaborated on their atlas production and related publications about resources and industrial prospects. From the information received he made a chart showing areal distribution of this type of atlas in the various states and provinces. He found that during the period of greatest atlas production, between 1941 and 1960, few or no atlases were available for the areas with low population density. We now realize that the 60's really marked the beginning of the period of greatest atlas production everywhere.

It is the technical data which Nammacher gleaned from the 27 atlases which he examined that might be useful to the prospective atlas producer or designer. He devised an Atlas Character Data Sheet in which he tabulated the various characteristics of the atlases. He established as categories certain components of areal resource atlases and from these features he attempted to develop preferred design characteristics.

The three major parts of the Data Sheet were: 1. Format data, including base map scales, map size and atlas page size, and total number of map pages. 2. Content organization, including the various categories of maps such as economic, natural resources, population, etc. He also analyzed the amount of graphics, photos, charts, and especially index maps. 3. Reproduction and binding data such as color, use of commercial screen patterns and printing processes used.
Niemann's study recorded not only the state of the art in atlases at the time but he also made recommendations of what would be desirable features in areal resources atlases, especially as to the organization of content. It would be well to have the expert advice of a professional such as Niemann lurking somewhere in the background when planning an atlas.

Unfortunately this thesis has not been published. It would need some revision, as it is not easy reading. However, it is available through Interlibrary Loan from the Geography Library of the University of Washington. It is 139 pages. Photocopying may not be able to pick up some of the appendix pages which illustrate atlas design.

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MORE REVIEWS: by the Editor


Guide to Atlases is a comprehensive listing of more than 5,500 atlases published worldwide between 1950 and 1970.

A "listing" it is, but a "guide" it is not! If you understand a guide to be a "pilot: guidance over a course where one might easily lose one's way and run afoul of difficulties or dangers".

This effort by Mr. Alexander, Chief of the Map Division, New York Public Library, is a most welcome and essential reference tool. Map librarians who also have responsibility for selecting atlases will find that they will want this book on their desks for quick reference. With the choice of how to spend money wisely on new atlases as they are offered, it is important to know what has been produced during the last twenty years. Reference can be made to previously published works, then to reviews about those works, and perhaps one can harvest an adequate comparison.

Additional sources of information must be used to determine the full content and adequacy of the items listed here, but at least you have this comprehensive list as a starting point.

Unfortunately the entries do not contain full subject content notes. Learning that a particular atlas contains, for an example, "30 p. col. map. 26 cm." is just not adequate for comparative analysis. One cannot determine from the entries the differences, if any, between two or more atlases. Evaluate, if you can, the following items — from the information given:

29 p. col. maps. 61 cm.

1 vol. col. maps. 28 cm.
One must turn to other sources of information for a description that can be used for a critical analysis. One such source is CartInform, supplement to the Hungarian periodical CartActual; a new service begun with its Volume 7, No. 1 (No. 27), 1971. It lists atlases, both national and regional, bibliographies, index maps, reports, periodicals, and statistical publications - all of interest to a map librarian. This list reports as much information as is submitted by the publishers of the items listed: price, number of pages, contents, as well as the usual authority information. It lists some items dated within the time period of Alexander's Guide, but of course the very early works will probably not be found.

CartInform number 30 (page 5) does give a full description of the Atlas of Mexico [Alexander's Item 3700], with the price listed at $10.00, and a description of the subject matter covered by the "193 maps". Furthermore, CartInform gives the names of the compilers: Michael E. Bonine, et al., and the actual publisher as the Bureau of Business Research of the University of Texas. These additional bits of information are essential when verifying the entry, determining whether the item is in your collection, or looking at publishers catalogs.

Alexander's Guide does not list State or Provincial atlases. One can understand why he didn't extend his list into these areas, but that omission does limit its usefulness.

This Guide to Atlases is, therefore, another bibliographic tool for the map librarian. A most necessary tool, but one must simply understand its limitations. Mr. Alexander, after all, stipulates in his Introduction that "this Guide to Atlases has been deliberately planned ... to serve one specific purpose: namely, to list at a glance all atlases published since 1950, by whom and where, of what area, what type, in what language, and of what size and date".

It is a welcome addition. We are indebted to Mr. Alexander for his dedication to "fill a long felt need". It was a truly monumental task. He has created a "classic" in the field.


This is, I believe, the best organized, most comprehensive, and well done cartobibliographies I have had the pleasure to read - typical of the products of the Geography Department at the University of Washington.*

The purpose of this cartobibliography is to "present a complete and clear discussion of map coverage of China". The following elements constitute the objective sought:

1. Determine the countries and their respective mapping agencies involved in mapping activities in China and/or producing maps of China.
2. Determine the nature of these agencies and their activities.
3. Determine the exact map coverage of China that has been completed and is available to prospective users.
4. Record the physical characteristics of these maps.
5. Establish the location of sources and the availability of maps from these sources.

This thesis also lists almost all the map libraries in the United States and Canada known to contain collections of maps on China [with at least 100 sheets or more]. Of the 37 libraries listed, the author personally visited six and examined all of the maps contained in this bibliography. It contains a seven-page list of references consulted, which includes some Army Technical Manuals that would be helpful reference tools if added to any map library reference collection.

Detailed analyses of the China mapping activities of the United States, Japan, China, Great Britain, Germany, France, and Russia are reported. Each section gives a history of that country's mapping, and a separate description for each agency that has produced or is producing maps.

Each map citation gives series-number, scale, date, language, and area coverage. Many single-sheet maps are included; special-subject maps quite often appear as sets of multiple sheets or as single maps. Mr. Williams also notes in which map library the item is located. Therefore, this cartobibliography also serves as a "union list".

Nautical charts produced by the U.S. Navy Hydrographic Office are listed, including prices; and Williams notes that "nautical charts are one of the few government map publications on China that may be purchased directly by the public". Appendix C gives addresses and ordering information of agencies "known to be currently publishing maps on China and whose publications are available for sale to the public".

This study does not survey the maps published in books, periodicals, and atlases. But, with the existence of Index to Maps in Books and Periodicals, compiled by the Map Department, American Geographical Society [under the guidance of Dr. Roman Drazniowski, Map Curator] Williams didn't need to duplicate that effort.

Williams gives a clear account of the history, and current status, of China mapping, and concludes with Recommendations for Future Studies. Some general comments that he makes are worth passing along:

"And let there be no mistaking the necessity of first-hand examination of maps for any cartobibliography. No map listed in this present study has not been personally examined by the author. There is no other way of accurately assessing the value of a map."
In conclusion, the author would make one strong recommendation to anyone contemplating the undertaking of a cartobibliography to be certain he has the time and finances to see his study through to the logical end; or, looked at from another angle, to prune his study down in size to match the time and finances he is prepared to commit to the study. To do otherwise can only result in an unfinished and significantly less-useful study and/or a frustrated author.

May I say, from this reviewer's viewpoint, that Williams has achieved his purpose quite well, but he has created a model for future bibliographers. I encourage map librarians who have a continuing need for China references to acquire this one. In 1966, when I purchased our Xerox copy from the University of Washington Libraries, our cost was at the rate of $0.50 per page or $31.10; I presume the Xerox rates are about the same today, judging from local costs.


The authors would be the first to admit the limitations of this Manual, I am sure; however, since I have a somewhat different vantage point, please allow the following observations.

This Manual is one of the working tools for those required to catalog maps at the Library of Congress. It "outlines the ... steps in the data collection process required to prepare map cataloging data for conversion to machine-readable form". And the Manual instructs the cataloger on how to enter the data so that the retrieval of information will result in coherent and usable information. "Just as the printed catalog record has a format in which data elements are arranged in a precise and consistent manner from record to record, so does" this program.

Therefore, the rules are designed as instructions to editors of MARC-Map cataloging, i.e., instructions that will be interpreted by a typist using the special keyboard designed for MARC input data.

In addition to the cataloging rules, most of which the average map librarian will never use, this Manual does have lists of codes that may be useful. Although some of the code lists are provisional and subject to modification, depending on needed expansion and experience, the convenience of having these ready-made codes puts us in debt of the authors. When the codes are expanded fully, they will be more useful. The appendixes are partially composed of the following codes: Revised List of Language Codes, Country of Publication Code, and Map Publisher Code List. Illustrations included are: Input Worksheets, Processing Cycle, and Examples of Corrections.

The Language Code list is composed of 346 languages and cross-references, using a 3-letter alpha code. Codes are assigned to major language groups, and multilingual, coded as MUL, was "included for the
of providing the option of assigning a single code to represent works published in several languages within one physical piece.

There are 34 pages containing 317 two-letter codes for Country of Publication, although historical place names are not included. The list is limited to existing national entities, internationally recognized dependencies, states of the United States, provinces and territories of Canada, divisions of the United Kingdom, and Republics of the U.S.S.R.

The Map Publisher code list is composed of 27 pages of entries; but here is a fine example of the incompleteness of these lists. Just glancing over the list for the United States, I notice, for an example, that only one California official agency is listed as a publisher. There are no less than eight California State agencies that produce maps. Nor does the list contain any County or City publishers of maps. Although the authors describe the list as containing the "major" publishers, it is a bit disappointing, and I wonder how workable? As it is expanded the compiler will run out of codes. Only five characters are used in this code, which permits very little expansion.

For any map librarian who is contemplating the adoption of the MARC-Map program, or who is now on the program, this Manual is obviously an absolute necessity. One should read it and then give your data processing analyst a chance to study it. Then jointly you will have a better understanding of its usefulness and adaptability to your needs.

Finally, I extend an open invitation to the authors, or any other commentator, to reply to this review. My purpose is not to be critical for controversy sake, but to inform our readers of new efforts being made in our area of common interest.

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In contrast to the Carrington-Naagen work reviewed above, this publication is much more comprehensive; it lists 229 pages of codes for cities of the United States, 13 pages for counties of states in the U.S., 1 page listing cities in U.S. territories, and 9 pages of Foreign Countries: by continent, countries, and cities.

This publication is an expanded listing of codes as derived from the Federal Information Processing Standards Publication.

It would be good to consider the adoption of this code to identify geographic locations in data processing of map catalog information.

To cite its comprehensiveness, there are 1416 cities listed for California. It is not as extensive as the Rand McNally Commercial Atlas and Marketing Guide, which lists perhaps four times as many place names for California, but I believe this list of codes is the best yet produced. It too needs expansion, but it has the system which permits expansion.
This is another of the special guides published by the National Archives that "will focus the attention of researchers on the vast potential of the cartographic archives in the National Archives.".

Other recent guides include Preliminary Inventory of the Cartographic Records of the American Expeditionary Forces, 1917-21 (Record Group 120), 1966; Preliminary Inventory of the Cartographic Records of the Forest Service (Record Group 95), 1967; and Cartographic Records Relating to the Territory of Wisconsin, 1836-1848 (Special List no. 23), 1970.

This guide describes only those maps and aerial photographs that are maintained in the Cartographic Branch, which includes more than 1,600,000 maps and about 2,250,000 aerial photographs. Many other maps exist in other branches of the National Archives, and are "filed with closely related textual documents in other records divisions."

The wide range of Federal activities is apparent in looking over the 560 separate collections of maps and aerial photos listed therein. All three branches of the Federal Government are represented, and "Other Sources". Among the latter is an obscure item that our members in the California Department of Water Resources will want to learn more about: see Entry 553 (page 275) Division of Earth Sciences, (National Research Council) 1954-58. 74 items: [including] "A map of the Sacramento River in California, compiled by the Geological Survey." This item quite possibly is a map that exists in the Maps and Surveys Map Collection (CDWR), but one would naturally be curious about it.

The Cartographic Archives Division recently requested a copy of the recent Information Bulletin (Vol. 2, No. 3, June 1971) which includes the Proceedings of the Joint Meeting: Special Libraries Association's Geography and Map Division, and WAML. This issue contains nine pages of material reporting on the Panel on Aerial Photography, and the Cartographic Archives Division can use any information relating to that topic, because of the demands of caring for their large aerial photo collection.

Sending the copy gave me an opportunity to make an inquiry about the Santa Cruz maps they listed in this Guide. I received an extensive reply from Ralph E. Ehrenberg, Assistant Director, and a follow-up reply from A. Philip Muntz, the Director. The information I received was not only an answer to my specific questions but, in addition, further citations to two other Cartographic Record groups that contain maps of Santa Cruz and vicinity - none of which I have in our collection. This kind of assistance, and the kind of effort that went into the compilation of these Guides is what many of us would like to reward; "Let's start a movement to send all our tax dollars to agencies like the National Archives, Cartographic Archives Division, e.g.".
REMOTE SENSING AND ITS APPLICATIONS

by

Ynez D. Haase

Remote sensing, literally, means the gathering of data from some remote position above terrain. Specifically, it means the acquisition of information about ground areas through the use of cameras and related imaging devices operated from aircrafts or spacecrafts.

But this is not new. Our eyes, for example, or our nose or ears are remote sensing devices. Unfortunately, though, what we see, hear or smell is not recorded with exception of the human facility of memory.

Technically, the earliest airborne photographic sensing occurred in 1858 after long years of research by Colonel Aime Laussat, a French Army Corps of Engineer officer. During our Civil War the Union Army employed Laussat's "Balloon Photography" technique and was successful in photographing the South's disposition of troops around Richmond.

The first hyperaltitude photos (greater than thirty miles from the earth's surface) were taken by V-2 rockets in 1946. All these were limited to black and white photography and within the electromagnetic spectrum visible to the human eye (400-700 nanometers).

PLATFORMS OR AIRCRAFTS

While government or government subsidized private companies have progressed significantly in the field of platforms, private air mapping or reconnaissance companies have not changed much in the past decade.

Today, for low altitude photography, private companies are using the Cessna 206 (a turbo single engine which has an optimum height range of 20,000' to 22,000'), the Cessna 310 (a turbo twin engine which has an optimum height range of 28,000' to 30,000'), and the Aero Commander (a high wing turbo twin engine with an optimum height range of 28,000').

For altitudes above 28,000' air photographic companies are using Lear and Falcon jets. These have replaced the old World War II high level bombers, such as the F-38, the Mosquito and the Lancaster that had been used for high altitude photography. Though both jets have reached the altitudes of 48,000', FAA regulations have placed a 45,000' ceiling on them for safety reasons.

Ms. Haase is Assistant Photogrammatrist, Mark Hurd Aerial Surveys, Goleta, California, and presented this paper at the Fall 1971 meeting of WAML at UC Santa Barbara, October 22, 1971. She is the co-author with Warren A. Beck, of Historical Atlas of New Mexico, and is now engaged in writing an historical atlas of California.

1. Wavelengths are denoted in millimicrons, or one millionth of a millimeter, and are also termed nanometers.
It is interesting to note here that although NASA claims satellite photography has advanced to such a point that it can now "be processed to show earth features as small as a foot across", the U.S. Geological Survey has found that resolution over 30,000' falls off drastically and have, therefore, dropped their specifications in high level photography to 30,000' or below.

Helicopters are used primarily for oblique photography and ground control work. Because of their vibration they cannot be used satisfactorily on straight level flight photography.

Spy platforms and earth-orbital reconnaissance satellites are the exotics and control by the government makes them far out of the reach of private companies. Through NASA's expensive and vigorous campaign to convince the public of satellite photography's worth, the government has in turn become a very serious competitor to private concerns in high altitude regions.

ELECTROMAGNETIC RADIATION

The portion of the electromagnetic spectrum to which the average human eye is responsive is called the visible spectrum, and includes the color band between violet and red. These colors represent light at different wave-lengths and as they traverse from the violet (400mm) to red (700mm) they become longer in length. The invisible spectrum is at both ends of the visible spectrum. Below the violet, wavelengths become shorter and are called ultraviolet. These are easily photographed. The infrareds are at the other or red end of the visible spectrum. Wavelengths increase and radiation goes from heat waves (sun) into radar and radio waves.

Only the region near the visible red is photographically actinic. To date, the longest wavelength to be recorded on film is 1350mm.

IMAGING DEVICES

Aerial Cameras: The Zeiss and Wild cameras are the most common aerial cameras in use today. These have the ability of exposing most of the visible and near infra-red spectrum films now available, and are specifically used in mapping and reconnaissance.

Panoramic Camera: With this type of camera it is possible to photograph a large area on one exposure and at the same time have a high degree of image sharpness.

Multiband Camera: Is composed of a series of photographic films and/or filter combinations over several spectral zones which permits the taking of simultaneous exposures over the exact same area.

Optical Mechanical Scanner: Has as one of its components a

2. National Aeronautics & Space Administration, Exploring Earth Resources from Space, p. 2.
mirror or series of mirrors which are used as reflective optics and thereby provides the photographing of images in the thermal infrared region that cannot be done with those cameras listed above.

Side-looking Airborne Rader Device: In order to record with this device four components are used: antennas (which transmit short microwave energy pulses to ground and receives reflected energy back from terrain), a cathode ray tube (which transposes the energy into an image) and photographic film (which records the image). Though this device has all-weather, day-night and penetration qualities superior to any other sensor, it does have a major disadvantage in that operating in the longer wavelength regions the images it produces have very poor resolution.

At present both the Optical Mechanical Scanner and the Side-looking Airborne Radar Device use conventional black and white films or ultra-violet sensitive film to record images.

FILMS

Black and White Panchromatic is the old standby and will probably remain so for the next ten years. This is the cheapest film available. It is easily processed and by-in-large no great difficulties are involved. But it is limited in that it can only be used successfully during the daylight hours between ten and three and it has inability to penetrate adverse weather forms or smog.

Black and White Infrared penetrates haze and smoke. Its best quality is delineating bodies of water from land forms. But its increased contrast tends to cause loss of detail in cultural features.

Color (positive and negative form) is best suited for low altitude, or roof-top sensoring. Most interpreters prefer paper prints from the negative form but this in turn causes a dilemma for the processor in that no one is quite sure what ground color is from the air. It has the same limiting characteristics as black and white, and one more added, it cannot be used successfully by people who are color blind.

Color Infrared (positive form) has been widely used in recent years and has the potential to replace black and white film as the standard. This is a false color or camouflage detection film. It has high altitude capacity with the same long wave haze penetration capability as Radar and Thermal Infrared sensors. It has the ability to detect objects painted green. It can distinguish between deciduous and evergreens and to some extent distinguish varieties of deciduous trees. It picks out diseased foliage and has the ability to code vegetation growth. Seemingly, it has only one limitation in that it is a day-time sensor.

It must be remembered that few users are equipped to handle, interpret and analyze information gathered from radar, thermal in-
frared, multi-spectral or even color infrared. If these are to be used to better advantage, schools should begin or expand courses in photo interpretation and photogrammetry. The delegation of teaching these courses should fall to the professional rather than the intellectual.

It must also be remembered that each sensor device will have a place within the systems and processes for which each is best suited. There is no likelihood that photography will take the place of maps. At present all the photographic techniques explained above are used to improve rather than do away with maps.

SUGGESTIONS IN GATHERING ARCHIVAL PHOTOGRAPHIC MATERIAL

If air photography is within financial range, libraries should concentrate on the collection of local coverage and stay within the original negative format (usually 9" x 9"). The collecting of local photographic data would entail considerable research on the part of the librarian in that many government agencies and private companies have been photographing portions of Western United States since 1925.

Throughout the years air photography has been taken at a number of scales. The following is only an example of what to expect:

<table>
<thead>
<tr>
<th>ELEVATION ABOVE GROUND</th>
<th>RATIO</th>
<th>PHOTO SCALE IN FEET</th>
<th>EXPOSURES PER 100 SQ. MILES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,200</td>
<td>1:2,400</td>
<td>1&quot;=200'</td>
<td>3334</td>
</tr>
<tr>
<td>3,000</td>
<td>1:6,000</td>
<td>1&quot;=500'</td>
<td>500</td>
</tr>
<tr>
<td>6,000</td>
<td>1:12,000</td>
<td>1&quot;=1000'</td>
<td>124</td>
</tr>
<tr>
<td>12,000</td>
<td>1:24,000</td>
<td>1&quot;=2000'</td>
<td>31</td>
</tr>
<tr>
<td>18,000</td>
<td>1:36,000</td>
<td>1&quot;=3000'</td>
<td>14</td>
</tr>
<tr>
<td>30,000</td>
<td>1:60,000</td>
<td>1&quot;=5000'</td>
<td>5</td>
</tr>
<tr>
<td>35,000</td>
<td>1:72,000</td>
<td>1&quot;=6000'</td>
<td>4</td>
</tr>
<tr>
<td>48,000</td>
<td>1:96,000</td>
<td>1&quot;=8000'</td>
<td>1</td>
</tr>
</tbody>
</table>

Until recently (within the past ten years) all air photography was black and white or black and white infrared. This photography is, of course, the cheapest and the easiest to process. For all intent and purpose, they can be stored in filing cabinets or boxed in 10" x 10" boxes which can be obtained at the same time the prints are bought.

There are various types of photographic material that are used in the positive reproduction of black and white aerial negatives.

Most aerial photo librarians are familiar with double or single weight semi-matte papers and double or single weight glossy papers. They are standard and for the most part acceptable for archival col-
lections. These papers have one bad feature of curling, particularly in dry weather, if not properly stored. Care must be taken to "pack" them tightly.

*Cronopaque* is more expensive. This type is of a plastic base material. It is more durable than the above papers, and as a rule does not curl. It has a semi-matte finish and has similar tones and quality as the semi-matte papers.

*Kind 1717* is a smooth luster, single weight, water resistant material. Though it has a plastic base it is not as durable as Cronopaque. Being a comparatively new material it has not, as yet, proven itself in longevity. Imagery quality is superior to Cronopaque.

Government agencies and private companies now have color photography available for certain areas. But the collection of color photography should be bought with reservations at the present time, and not until the processing of paper prints can be perfected will these be of use for archival collections. Storing color can be in the same manner as black and white. Some may want to "sleeve" their color prints. This is not really necessary and will cause a problem when researchers wish to use them stereoscopically.

Other photographic techniques, such as color infrared, multiband, thermal infrared and side-looking air borne radar are, for the present, financially prohibitive and the availability of procuring such photographs is somewhat restricted.

When buying air photography ask to have the chambers left on. In most cases, the chambers will give the time, true altitude, make and number of camera and the CPL [calibrated focal length of the lens].

Outside the respective local areas, large regional coverage at higher altitudes can be obtained in the form of photo indexes, through government or some private company sources. Photo indexes group a series of overlapping photos together on one sheet. These sheets are usually 20" x 24" and can be handled and stored in the same manner as USGS quad sheets.

Libraries should not be asked to buy expensive equipment to handle the use of air photography. If a library feels the need to furnish equipment the most valuable and cheapest forms of equipment are pocket stereoscopes and magnifying glasses. If a researcher cannot see with these tools, than he or she has not learned the basic rules of photo interpretation.

REFERENCES

The widening use of maps and surveying is the topic of a small group of men meeting here who are also concerned about what they view as encroachments on their domain. The joint convention of the American Society of Photogrammetry and the American Congress on Surveying and Mapping at the Hilton features exhibits, a total of 124 technical papers, and a speech by Hollis M. Dole, an assistant secretary of the U.S. Interior Department. ACSM Pres. Russell L. Voisin of Chicago said all sorts of people—civil engineers, builders, contractors—were doing land surveying when only registered surveyors were qualified. He said this sometimes resulted in boundary disputes of such dimensions that only courts could decide—to the chagrin and extra cost of the homeowner. Voisin acknowledged that much of the public was in the dark about this—an education lack perhaps due to his profession. "We're interested and concerned with the public interest," said Robert E. Herron Jr., executive director of ACSM. Yet both men conceded that cartography and surveying courses in colleges were either being reduced or integrated with other disciplines. They said this was happening at a time when the planning function of government and private industry was bigger than ever.

Dramatic advances in photography equipment have also enhanced the field of mapmaking. A process called orthophotomapping is increasingly used today. Aerial photographs translated into maps provide urban planners with the most accurate representation of land contours and land usage. Ortho means having straight lines. The orthophotomap is said to render the most meaningful and precise relationship between structures and their surroundings.

The San Fernando earthquake of Feb. 9, 1971 also occupies the conventioners. The problem has been to re-establish boundary lines mostly of property owners. Richard J. Mitchell of the Los Angeles County engineer's office said horizontal movement of up to eight feet occurred in the earthquake. "Buildings, fences, swimming pools and other attachments to the land had moved, yet commercial buildings a foot apart before the earthquake were now snug against each other." The question homeowners wanted answered was: Did title move with the land or did it remain fixed? James N. Robinson, an executive with a Los Angeles title company, said there were "no laws we could find" that covered the situation."
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FIRE INSURANCE MAPS IN THE BANCROFT LIBRARY,
UNIVERSITY OF CALIFORNIA, BERKELEY

by

R. Philip Hoehn
Map Librarian, Bancroft Library

The following is a complete list of all fire insurance maps at the University of California, Berkeley. The collection was built up over a number of years through gifts from UC academic departments, from several individuals, and from local business firms.

Maps of cities in Santa Cruz County, California, not listed here may be found in Stanley D. Stevens' "Color microfilming of Sanborn maps for a local history collection", Western Association of Map Libraries Information Bulletin, v.1:3 (June 1970)2-8. A list of Sanborn maps of these cities on film in the Map Collection of the University of California, Santa Cruz is found on pp.6-7.

This list is arranged alphabetically by area (usually a city). After the date of publication will be found other dates in parentheses. These latter dates are those to which the maps have been corrected by means of correction slips pasted onto the maps themselves. For example: New York, 1911- (1928, 1955) indicates that the volume was published in 1911, and that the library has volumes corrected to 1928 and 1955. The author would greatly appreciate any information concerning the availability of volumes which would fill gaps in this collection.


ALBANY, CALIF. see BERKELEY, CALIF.


BERKELEY, CALIF. see also OAKLAND, CALIF.


COLLEGE PLACE, WASH. see WALLA WALLA, WASH.


DISMAN, WASH. see SPOKANE, WASH.

EL CERRITO, CALIF. see BERKELEY, CALIF. and RICHMOND, CALIF.

EMERYVILLE, CALIF. see OAKLAND, CALIF.


HILLSBOROUGH, CALIF. see SAN MATEO, CALIF.


KENSINGTON, CALIF. see BERKELEY, CALIF.


MONTEREY, CALIF. Sanborn Map Company. [Insurance maps of] Mon-


--General Index. New York, 1929, with corrections to April 1935.


OFTHEITY, WASH. see SPOKANE, WASH.


PIEDMONT, CALIF. see OAKLAND, CALIF.


RICHMOND, CALIF. see also BERKELEY, CALIF.


SAN FRANCISCO, CALIF. Davis (J.B.F.) & Son, San Francisco. Report [i.e., insurance map] of the California Sugar Refinery, built 1881-3. San Francisco [1883?] map 27 x 31 in. Scale 1:610. Covers area bounded by San Francisco Bay, Michigan St. & Sierra St.

Davis (J.B.F.) & Son, San Francisco. [Insurance map of] the California Sugar Refining Company built 1883- San Francisco [1883?] map 19.5 x 29.5 in. Scale 1:625. Covers area bounded by San Francisco Bay, Michigan St. & Humboldt St.


SAN PABLO, CALIF. see RICHMOND, CALIF.

SANTA BARBARA, CALIF. Sanborn Map Company. Insurance maps of Santa Barbara, California, including Miramar and Summerland. New York, 1907- (1929) Scale 1:600.


SUMMERLAND, CALIF. see SANTA BARBARA, CALIF.

TACOMA, WASH. Sanborn Map Company. General Index. New York, 1951, with interim supplement Nov. 1963. Library has index only (no maps).

UNION GAP, WASH. see YAKIMA, WASH.


WARRENTON, OR. see ASTORIA, OR.


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DUPLICATE MAPS AVAILABLE

David W. Schacht, Map Librarian at Oregon State University, has offered the following "to trade or give away to someone having use for them":

Sanborn Map Company cadastral [fire insurance] maps:
- Dover, Oklahoma. 1909
- Frisco, Idaho. 1916
- Kootenai, Idaho. 1921
- Selins Grove, Penn. 1890
- Washington, D.C. vol. 2 + add'l sheet 260. 1916
  vol. 2 + add'l sheet 262. 1916
  vol. 3 + new sheet 387. 1919
  vol. 3 + add'l sheet 390. 1919

U.S. Coast & Geodetic Survey Charts:
- California:
  5106. San Diego Bay. 1917
  5143. Wilmington and San Pedro Harbors. 1896
  5146. Los Angeles and Long Beach Harbors. 1924
  5382. Humboldt Bay. 1894

Washington:
  650. Fort Gamble, Washington Territory. 1889
6185. Willapa Bay. 1912 (half sheet)
6185. Willapa Bay. 1930 (photocopy)
6195. Grays Harbor. 1932 (photocopy)
6310. Georgia Strait and Strait of Juan de Fuca. 1918
6303. Port Angeles. 1909
6377. Anacortes Harbor. 1902
6378. Bellingham Bay. 1911
6380. Washington Sound. 1926.
6399. Semiahmoo Bay. 1909
6400. Sea Coast and Interior Waters of Washington from Grays Harbor to Semiahmoo Bay. 1919
6405. Port Townsend. 1895
6444. Port Orchard, Southern Port. 1913.
6448. Everett Harbor and Approaches. 1909.
6450. Admiralty Inlet and Puget Sound to Seattle. 1905
6460. Puget Sound, Seattle to Olympia. 1911
6462. Olympia Harbor, Puget Sound. 1895
6462. Olympia Harbor and Budd Inlet. 1931, (photocopy)

"We assume anyone accepting them as a gift would be agreeable to paying the postage." Address requests and/or trade offers to Mr. Schacht at TheLibrary, Oregon State U., Corvallis, OR 97331.

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The California State Archives is making available to California public institutions (as first priority) the following:


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. Hammond 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].

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].

These sets are available in limited quantities and requests will be considered as follows: Any request for the above should be accompanied by $1.50 in stamps to cover mailing and handling. Requests will be considered from California public institutions until September 1, 1972. After that date other institutions will be considered. Address your request, on official letterhead, with the stated value in stamps, to:

David L. Snyder
Archivist II
California State Archives
1020 0 Street, Room 200
Sacramento, CA 95814

* The California State Archives' records appear to give no conclusive proof of the extent of coverage by the 1885 set. Any member of WAML, or reader of this Information Bulletin, knowing of sheets not included here would do us all a good turn by submitting information on the subject to David L. Snyder at the Archives.

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THE JAMES IRVINE FOUNDATION MAP LIBRARY
at the University of Redlands

by

Elizabeth M. Rivero
Map Librarian

The James Irvine Foundation Map Library (hereinafter called the Irvine Map Library, or IML), which is less than one year old at this writing, is atypical of small map libraries. Why? From the beginning there have been sufficient funds and space for carefully chosen acquisitions. The map room is the materialization of the lifelong dream of the head librarian, Lawrence Marshburn [of the Armacost Library of which-IML is part]. He dreamed the dream, found sympathetic administrative ears to listen, and a charitable foundation ("dedicated to the support of higher education and community cultural projects for youth of the state of California") capable of supplying the money. The present supervisor was chosen because of a practical cartographic background — but at the time she was hired for Special Collections, a map library was still a gleam in the librarian's eye.

When applying for the grant in October, 1968, Marshburn said:

"The University of Redlands library is the focal point of an academic community whose interests are world wide. It is our plan to provide a map area which is a functional adjunct to the new Armacost Library."
The funds which he requested were to be roughly divided into two portions: about $20,000 for physical equipment; the remaining $30,000 being spent for resources.

On 6 August 1969 word was received from the Foundation that they were "actually ready to start on the Special Map and Chart Project in the new Armacoif Library" if we were "ready to go". An order detailing specific expenditures was acted upon 12 March 1970, and on 22 April 1971 the James Irvine Foundation Map Library of the University of Redlands was formally dedicated.

PHYSICAL FACILITIES

The IML is located on the third level of the new, four-level Armacoif Library. Twenty-four five-drawer Hamilton 7J5 map cases stacked three high enclose an L-shaped area of about 700 square feet bordering the east wall of the Special Collections Room. Two six-foot study tables are placed in L-shape in the center of this area, and a reference desk faces the Archives Room (see fig. 3). An effective display space has been made by mounting a thick cork bulletin board around the exterior of the map cases.

RESOURCES

In the past, the University of Redlands has paid little attention to the development of map resources. The Geology Department has its own working collection of maps; other departments as a rule have settled for classroom wall maps. As the first WAML Directory of Map Libraries will appraise you, the UR library map collection consisted of 250 flat maps (mostly National Geographic). In 1972 the flat map collection contains about 6,000 sheets, including all available 5,000,000 and millionth maps of the world; 1:500,000 aeronautical charts for the conterminous United States; and USGS topographic quadrangles for all fifty states. We have filed them so that all 7 1/2' and 15' quads for a given section of the alphabet are in the same drawer -- 15' on the left, and 7 1/2' on the right.

On the south wall of the map room we have mounted a mosaic of the plastic relief maps of the state of California; on the north wall there is a large scale aerial photo showing Redlands nestled against the San Bernardino Mountains.

For the local ecological unit of the Santa Ana River basin we have 68 aerial photos on the scale of 1:660 feet. We hope eventually to get Mylar grid overlays for selected California quadrangles.

So far as national atlases are concerned we have received to date the NATIONAL ATLAS FOR THE UNITED STATES OF AMERICA, and those for Israel and for India. We hope to obtain other selected national atlases as need dictates, since the University of Redlands conducts academic programs in many different countries. "General atlases," such as the Rand McNally Commercial, the London Times, etc., are and will continue to remain in the general reference area of the Armacoif Library on the level below the IML.
We do not expect to concentrate on antiquarian maps to any extent -- but neither do we pass up opportunities to acquire them. We yielded to temptation and procured a Hondius/Mercator map of the ATLAS SIVE COSMOGRAPHICAE MEDITATIONES DE FABRICA MUNDI...; Pierre Apian's COSMOGRAPHIE, Anvers, 1581; and the excellent Barnes and Noble exact facsimile of the 1663 French edition of Blaeu's LE GRAND ATLAS.

Recently we have discovered a Sanborn atlas which covers the Redlands area. This treasure lies in the office of an insurance adjuster whom we are trying to convince that the IML is the best place in which to keep it.

In the map room there are two freestanding globes, one is a Replogle 32" political and the other a 24" physical relief globe. On top of the map cases are two moon globes (relief and photographic), together with a 12" hydrographic globe, and a 12" political globe. There is also a small mechanical model of the Solar system designed for classroom use, and a 24" blackboard globe for impromptu-talk demonstration. Four other globes, two political and two physical relief, have been distributed to general reading areas on the same level of the library.

The awakened interest in maps, of an institution already known for its "worldwide interest and global concern," is indicated by the huge six foot Rand McNally geophysical globe mounted at the main entrance of the Armacost library.

REDLANDS AREA

The generous Irvine grant has allowed us to embark upon a fascinating atlas project in cooperation with the Environmental Relations Department of Johnston College, the new experimental college located on our campus. Dr. Paul Corneli and his students are compiling a land-use planning atlas for the Santa Ana River basin area. The city of Redlands, located in the south central portion of this basin is a town of 37,000 inhabitants, with a college of 2,000 and a faculty of 100 members. It is in the unique position of carrying on a planned community program which began with its founders Frank Brown and E. G. Judson in 1881. The proposed atlas will thus be of prime importance in our local-area collection.

In addition, we are making a Xerox file of newspaper maps. Of special interest is the presently raging controversy concerning "renewal" of the center of town as a shopping area, as opposed to a big new "plaza" outside of the city limits. Maps of some of these fanciful plans will be included as well as the actual changes caused by freeway improvement, etc.

PROCESSING AND CIRCULATION

The present setup of the IML does not include a room for processing, or for an office. However there is space in which to carry on these functions in the adjacent Redlands conference room and the adjoining Archives office.
There are now about 90 roller maps in the classroom collection. As soon as it became known that the library was to have a map room, Dr. Gilbert Becker of the history department gathered up all the roller maps which had been hanging in various buildings, or lying about unnoticed in dark closets, and brought them to the IML. Here they were sorted, repaired and classified for redistribution. Each map was given a code number (e.g., R-60-45, in which "R" stands for roller, "60" for 60 inches rolled width, and "45" is the actual accession number). Two identical five-by-eight cards are made out for each map (see fig. 1), one card is filled by geographic area, the other by code number. A circulation record is kept at the bottom of the area card. Roller maps are assigned by semester, or upon a permanent basis, depending on the stability of classroom assignments.

Flat maps are stamped on the recto and verso with the library ownership stamp, with the accession number stamped on the verso only. These maps are filed according to LC arrangement, but as yet we do not have the clerical help to assign individual numbers to each map. Three-by-five cards (see fig. 2), have been made out for each flat map or set of flat maps, and filed alphabetically by geographic area. These maps circulate for three days (or longer if especially requested), through the main loan desk. A "see-card" has been made for the main catalogue for such sets as the millionth USGS quadrangles, bathymetric charts.

Since the Irvine Map Library is located in the Special Collections area and is open at all hours when the library itself is open, each case has an individual lock which remains unlatched Monday through Friday 9 to 5, Sunday 6-10.

Atlases are catalogued through the regular acquisitions channels, labeled and sent on to the IML. All atlases are "For Library use only", but exceptions are made according to need.

Map-related periodicals are in the general periodical area on the level below the IML, and probably will not be transferred to the map room.

THE FUTURE

An order has just been placed for 27 additional map case units (while the money is still available). We will attempt to limit our maps to fifty per drawer, thus doing ourselves as well as the maps a real service. In order to take care of these cases, we are appropriating about 850 more square feet of the Special Collections area so that by the end of the fiscal year the IML will occupy a little over 1,500 square feet.

 Provision is currently being made for the acquisition and shelving of national and thematic atlases in the new area.

The final operation before the collection gets too big will be to obtain sufficient help to classify each map according to LC schedule G.
CONCLUSION.

This paper has given a bird's eye view of the Irvine Map. Library of the University of Redlands -- what we had, what we have, and what we hope to have. There are many inadequacies and holes, but this will change as time goes by. We feel that we have been exceptionally lucky in being able to play-it-by-ear these first few months, in order to answer needs that seemed to be both fundamental and pertinent to our particular situation. None of this would have been possible without the foresight of our head librarian, the generosity of the James Irvine Foundation and the beyond-the-call-of-duty help offered by the WAML and its individual members, particularly Carlos Hagen, Evelyn Woodruff, Gail Neddermeyer and Stanley Stevens.

Fig. 1. [Reduced from 5 x 8 card]

<table>
<thead>
<tr>
<th>Area: Latin America</th>
<th>Subject: Physical and Political</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title: Latin America</td>
<td>Pub. date: 1967</td>
</tr>
<tr>
<td>Publisher: D-G</td>
<td>Scale: 1:7,200,000</td>
</tr>
<tr>
<td>Projection:</td>
<td>Format: spring roller</td>
</tr>
<tr>
<td>Size (ft. &amp; in.): 57&quot;</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dept.</th>
<th>Prof.</th>
<th>Bldg. Room</th>
<th>Date chrd.out</th>
<th>Date ret'd.</th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td>Becker</td>
<td>HL 315</td>
<td>8 Sept. 71</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 2.

Africa. Political.

National Geographic. 1935.
Azimuthal Equal-Area. 1:11,721,600

32" x 29"
Flat.
THE JAMES IRVINE FOUNDATION MAP LIBRARY
Armacost Library, University of Redlands
February 10, 1971

Fig. 3:

Display Case

Reference Desk

File File

Study Table

Study Table

3 units 7.5' drawers

Scale in feet

0 1 2 3 4
Catalogs Received

John P. Coll, Maps. 2944 Pine Avenue, Berkeley, CA. 94705.

List of some Charts of Alaska and its Harbors published by the U.S. Coast & Geodetic Survey (now National Ocean Survey), 1875 - 1898. (19 items offered subject to prior sale by John Coll, a member of WAML.) Mr. Coll provides full bibliographic and historical information regarding the maps he offers, and readers are advised to request placement on his mailing list.

Hubbard Press. P.O. Box 442, Northbrook, IL. 60062.

Raised Relief Topographic Maps (formerly available from the U.S. Army Topographic Command.) This is the same series as the AMS V501:V502, scale 1:250,000 which was discontinued by the Army due to budgetary reasons. Hubbard bought the molds and now makes these available to the public at $9.95 each. All of the States within the WAML membership area are covered completely, with the exception that Alaska is only partially covered.

Hubbard Press. P.O. Box 442, Northbrook, IL. 60062.

1972-73 Catalog: instructional media and materials. This is a general catalog of earth sciences, environmental studies, geography, and general science materials marketed for all age groups. It contains relief maps, landform models, map projection models, map reading film strips, and projection transparencies.

Publications of Interest from the Bishop Museum/Honolulu

Bryan, E[dwin] H., Jr.

Land in Micronesia and its resources: an annotated bibliog-raphy. Compiled by E. H. Bryan, Jr. and Staff for the Trust Territory of the Pacific Islands. 119 p., map. $3.00

Bryan, E[dwin] H., Jr.

Guide to Place Names in the Trust Territory of the Pacific Islands. Compiled by E. H. Bryan, Jr. 406 p., 114 maps. 1971. $2.00

In Preparation: Guide to place names in the Hawaiian Islands. (Scheduled for 1972). Other publications having to do with the Pacific are being contemplated.

From: Pacific Science Information Center, Bernice P. Bishop Museum, P.O. Box 6037, Honolulu, HI. 96818. Prices listed include direct delivery by mail.

[Mr. Bryan, Director of the PSIC, is a Member of WAML and his "Guide to Maps of the Pacific Ocean Area" was published in Vol. 2, No. 1, WAML Information Bulletin (October 1970).]
MINUTES
Joint Meeting of
Geography and Map Division, Special Libraries Association
and
Western Association of Map Libraries
Nut Tree, Vacaville, Calif., June 12, 1971

The meeting was called to order at 10:00 am by the President of WAML, Mary Schell. She gave a short welcome to the group. Miss Mary Galneder, Chairman-elect of the Geography and Map Division, introduced the newly elected officers for 1971-72 of the G & M Division. Then Mary Schell introduced the officers for 1971-72 of the Western Association of Map Libraries:

Ed Thatcher - President
Herbert Fox - Vice President/President Elect
Mary Larsgaard - Secretary
Stanley Stevens - Treasurer

Stan Stevens made an announcement concerning subscription information for the WAML Information Bulletin, especially for the interests of the attending members of the SLA G & M Division.

Mary Schell announced that the Fall Meeting will be held at the U.C. Santa Barbara campus where Bob Sivers, map librarian, will be host.

There were informal announcements of positions open in map libraries around the United States. [see p. 17 Information Bulletin, Vol. 2, #3].

PANEL: AERIAL PHOTOGRAPHY

Mary Murphy, Chief, Analysis Branch, U.S. Army Topographic Command, and chairwoman of the panel, gave a brief word of introduction and introduced the speakers. [For text of presentations see Information Bulletin, Vol. 2, #3, pp. 1-9.]

ANNOUNCEMENTS

Mary Galneder stated that there was a need for a directory of aerial photography collections. She introduced Mr. Frank J. Janza who is working with NASA on a two volume set on remote sensing.

Mr. Janza stated that the first volume of the set will include an attempt to update the methods used by Dr. Kirk Stone to obtain data on aerial photos in his 1959 work, Manual of Photographic Interpretation. It will state where many types of aerial photographs may be obtained. Target date for publication of Volume I is 1972. Mr. Janza requested libraries with air photo collections to respond to a questionnaire on imagery sources. These questionnaires will be mailed to some libraries or are obtainable from: John D. McLauren, Chairman, Remote Sensing Committee, 41st Center Street South, Vienna, VA. 22180.
THE CARTOGRAPHY OF NOVA ALBION, 1583-1846

Introduction: The historical world still looks at historical cartography as an art instead of a science, since the interpretation of inked maps leaves a lot open to speculation.

The term "Nova Albion" was the name Sir Francis Drake gave to the place he landed on the west coast of North America. Through different periods in history the term "Nova Albion" has referred to areas as specific as between 37° and 48° north latitude from the North American west coast to the continental divide to as general as the whole New World. Usually, however, it is thought of as the west coast of North America.

Drake's Landing: For the British, Sir Francis Drake's landing at a port in Nova Albion was a momentous occurrence. However, for hundreds of years since there has been a controversy over just where it was that Drake landed. Many historians have said that it was Drake's Bay, to the north of San Francisco. Mr. Power, on the other hand, stated that he has found substantial proof that Drake landed at Point San Quentin in San Francisco Bay. This would make him the discoverer of San Francisco Bay. Through examination of Jodocus Hondius' map published in 1589 to commemorate Drake's world voyage, Mr. Power found the landscape detailed on inset maps to have much more similarity to Point San Quentin than to Drake's Bay.

Use of the term "Nova Albion" on maps: The name "Nova Albion" (and also the name "California") was first put on a map in 1589 on Jodocus Hondius' map entitled Verris Totius Expeditionis Nauticae. Between 1589 and 1789 the term "Nova Albion" was used on many cartographic works. Mr. Powers displayed many original maps and reproductions which used the place name "Nova Albion". The use of the term "Nova Albion" slowly died out after 1789 and the place name was not seen on a map after 1850.

ANNOUNCEMENTS

Stan Stevens announced that membership in the Western Association of Map Libraries is open to anyone interested in furthering the work of the organization, and urged guests present to see him for further information.

There was also an announcement that the Bulletin of the Society of University Cartographers is available for WAML members to inspect. The WAML and the Society exchange publications.

SPEAKER: Robert E. Foley, Supervising Engineer and Chief of Maps & Surveys, California State Department of Water Resources

MAPS AS THEY ARE USED BY THE CALIFORNIA STATE DEPARTMENT OF WATER RESOURCES, and PROCEDURES FOR ESTABLISHING GEOGRAPHIC NAMES

Mr. Foley gave a slide show to illustrate the various maps used by
his agency. [For "Procedure in Establishing Geographic Names", see p. 9, Vol. 2, #3 Information Bulletin.]

SPEAKER: H. Donald Gholston, Chief Librarian, Chévron Research Company Library, Richmond, Calif.

CURRENT REFERENCE TOOLS IN ENVIRONMENTAL SCIENCES

Mr. Gholston handed out a bibliography of reference tools in the environmental sciences and described each item on the list. He said that governmental indexes are all a good buy. They are subsidized by the federal government and have increasingly improved in recent years. [For complete list see pp. 10-13, Vol. 2, #3, Information Bulletin.]

The meeting adjourned at 4:00 p.m.

Respectfully submitted,
Evelyn Woodruff
Secretary Pro-tem, WAML

MINUTES
WESTERN ASSOCIATION OF MAP LIBRARIES
BIANNUAL MEETING
Library, University of California, Santa Barbara
October 22 & 23, 1971

The meeting was called to order at 1:30 p.m. by the President of WAML, Edward Thatcher, who introduced Dr. Donald C. Davidson, University Librarian at UCSB. Dr. Davidson gave a quick introduction to UCSB, and commented that an accrediting team the year before stated that the library collection, including a very good map collection, had improved substantially since 1965. Dr. Davidson then welcomed WAML to UCSB, and turned the meeting back over to Mr. Thatcher, who then introduced John Petros of the history department at the San Francisco Public Library. Mr. Petros spoke on "State and Local Atlases" until 2:45 p.m., when the membership took a coffee break... At 3:15 p.m. the membership reconvened, and Mr. Thatcher introduced Ynez Haase, assistant photogrammatrist at Mark Hurd Aerial Surveys, Goleta. Miss Haase delivered a lecture on "Remote Sensing and its Applications", which elicited many questions from those present.

At 5:00 p.m., Mr. Thatcher thanked Miss Haase for speaking to WAML, and then recognized Barry Gardner-Smith (Scripps Institution of Oceanography) who gave a brief promotion speech for the bathymetric charts presently being offered by Scripps. According to Mr. Gardner-Smith, both sets of charts (one set composed of ten sheets for $20 and another composed of one sheet for $3) have been reviewed or mentioned in glowing terms by users. Mr. Gardner-Smith also mentioned the eleven-volume Eastropac atlas, put out by the U.S. National Marine Fisheries Services; he will be sending out a few complimentary copies.
Robert Sivers (UCSB) was then recognized, and gave directions as to how to get to the restaurant chosen for the evening. Stanley Stevens (UCSC) then stated that via courtesy of Gousha Co., there was a packet of twenty road maps, free, for each member present. Mr. Stevens also mentioned that he had brought along duplicate maps and books from his library which were free to whoever wanted them. The meeting was adjourned at 5:30 p.m.

A most informal meeting and general talk session was held Friday night, October 22, after supper. At approximately 7:30 p.m. it was proposed and agreed to that instead of going back to UCSB that the members stay at the restaurant. Stanley Stevens suggested that we discuss acquisitions problems. Members present related various anecdotes concerning their acquisitions problems and experiences; for example, as a dealer Edward Stanford Ltd., except for Ordnance Survey maps, is slow and undependable (Mr. Stevens cited receiving maps whose orders had been cancelled two or three years before), and Zumstein is expensive, particularly with the presently unfavorable rate of exchange. One member asked if it were possible to find out what maps were available in the 1:1,000,000 series. Mr. Sivers stated that the Zumstein pricelist has all available 1:1,000,000 maps, but that the buyer should obtain them from the country involved. Another member mentioned that the United Nations International Map of the World on the Millionth Scale annual report lists what agencies to write to in each country for the 1:1,000,000 maps.

Mr. Thatcher proposed that all of the WAML committees extant be abolished, on the grounds that these committees have become lethargic; and that a projects committee be set up to explore areas needing work.

A union list of old maps held by all WAML libraries was proposed. Arguments against this were that these cartobibliographies of old maps were perhaps not needed as much as work done on current mapping, and that it would be most time-consuming and expensive for the larger libraries to compile such a list. Arguments for such a union list were that such a cartobibliography would indeed be valuable. The issue was left at this point.

Mr. Thatcher stated that he is going to meet with Mary Galneder of the Geography and Map Division, Special Libraries Association, and an officer of the Canadian Map Libraries Association at the SLA convention in Boston in June, 1972.

It was suggested that this sort of informal discussion of a general problem area was valuable, and that current needs and problems be so discussed at subsequent meetings. Mr. Stevens suggested authorizing the executive committee to appoint a projects committee. The meeting was adjourned at approximately 9:30 p.m.

On Saturday morning, October 23, 1971, at 9:15 a.m., Edward Thatcher opened the meeting by introducing Robert Sivers, Sciences-Engineering Library, UCSB, who spoke on "The User-Oriented Map Catalog: LC's
MARC-Map and Map Cataloging Policy." Mr. Sivers finished his presentation at 10:30 a.m., at which time all of the membership (except the executive committee, which had a short meeting) took a coffee break. At 10:55 a.m. the formal business meeting was opened by Mr. Thatcher, who began by requesting applause, enthusiastically tendered for Mr. Stevens' excellent job on the WAML Information Bulletin. The minutes of the last meeting will be included in the March 1972 Information Bulletin. Mr. Thatcher suggested a reciprocal arrangement with other map organizations which would involve including each other's tables of contents in bulletins. Thanks to UCSB were voiced by Mr. Thatcher.

In response to Mr. Thatcher's stating that a poll concerning how often and where to meet would be sent out, Mr. Sivers suggested that the pros and cons of the situation be included in the poll, to which Mr. Thatcher agreed. It was mentioned that a longer session permits more sociability.

Herb Fox, President-elect and Program Chairman, was recognized, and said that he would be glad to receive suggestions as to future programs.

North and south separate regional meetings plus an annual meeting were suggested, but it was pointed out that such a system might prove divisive, and only exacerbate the money problem. Also, while it would not be difficult for those in southern California to meet because of their proximity, for the northerners, who are more spread out, it might be difficult and would certainly be expensive. In a straw vote, 12 persons favored one meeting a year, and 7 persons favored two meetings per year. Beatrice Lukens suggested that if meetings were reduced to one per year, they might be held in places outside California, such as Denver or Salt Lake City. Mr. Gardner-Smith requested that if the meetings were to be annual that the program be announced at least one month in advance, to make it easier to obtain official leave. Mr. Thatcher said that this might be difficult, but Mr. Stevens agreed with Mr. Gardner-Smith, and said that it was desirable and definitely possible through the Information Bulletin if plans had been set by the deadline before publication.

It was asked if there were any attempts made at bringing in new persons, if there were a danger of our becoming stagnant and talking our field out, and if it were possible to have repeats of valuable articles, such as "How to Start a Small Map Library". It was agreed that continuing education of novice map librarians is one of WAML's duties. John Petros thought that the program chairman should attempt to have something for every type of map library included in the programs. Gail Nedermeyer felt that longer meetings might allow for general discussion on a specific topic, such as acquisition.

Recognizing his arrival, Mr. Thatcher extended greetings to Carlos Hagen ("The Walter Ristow of the West", in Sheila Dowd's words).
Mr. Stevens asked what the nature of Mr. Hagen's cartobibliography of Latin America might be. Mr. Hagen answered that it would be a list of what maps could be obtained, plus a short article on the mapping of the area, and that it would be organized by country, with evaluation of issuing agencies. [No specific date of publication is projected since the material has yet to be compiled and edited.]

Mr. Thatcher then brought up the matter of dissolving existing standing committees. It was suggested that WAML have workshops, to which the reply was that these meetings were workshops in many ways.

Mr. Stevens was called upon for the Treasurer's report, which was included in the last issue of the bulletin. WAML's financial status as of June 30, 1971, was a balance of $1099, and is presently larger. Mr. Stevens believes that the Information Bulletin is doing very well for itself. There are 23 subscribing institutions, 25 individual subscriptions, 10 member institutions, and 65 or 66 members of WAML. In terms of cost of publication of the Information Bulletin, it would be difficult to do better than the offset memo process. In the next bulletin, the three talks given at the present meeting will be reproduced, as well as Phil Koehn's bibliography of fire insurance maps in the Bancroft Library. Gary Rees of San Fernando Valley State College is making up a list of the fire insurance maps in his library.

Mr. Gardner-Smith wanted another item to be put on the poll, namely, that all of the members attending a given meeting of WAML should stay in one place. Mr. Thatcher suggested that this might be laid upon the host institution, to which Sheila Dowd quickly replied that supplying a list of available motels and recommending the best is all that a host institution should be expected to do. Mr. Gardner-Smith reiterated that he would like to have this matter included on the poll and thus obtain a consensus of the members. Mr. Thatcher said that he would like the executive committee to consider the matter of putting Mr. Gardner-Smith's proposal on the poll.

The meeting was adjourned at 11:45 a.m. Following the adjournment, the members went on a tour of the UCSB map library.

At 10:30 a.m., Saturday morning, an executive committee meeting was held. Mr. Thatcher suggested sending out a questionnaire asking the membership if they desired one or two meetings per year, what time of year, and how many days per meeting. It was suggested that Mr. Thatcher mention this poll in the formal business meeting, and take a straw vote. Mr. Stevens suggested that we plan on having a spring meeting, and have annual meetings after that if the membership so desires. Mr. Thatcher noted that the time spent talking after supper on Friday night was valuable; and Mr. Gardner-Smith's ideas that those attending WAML meetings might want to stay in the same place.

In response to Mr. Thatcher's suggestion that the price of institutional membership in WAML be reduced, Mr. Stevens said that as the
number of institutional members was increasing, there did not seem to be any need to lower the price of such memberships.

Also to be mentioned at the business meeting were requests for suggestions for future programs, Mr. Stevens' proposed rotational meeting system, and a proposed projects committee, to be composed of two or three persons living close enough together to meet frequently. The meeting was adjourned at 10:50 a.m.

Respectfully submitted,
Mary Larsgaard
WAML Secretary

ATTENDANCE:

Mary Ansari  Mines Library, University of Nevada, Reno
John Bartes  Map Library, University of California, Los An.
Keryle Butcher  Santa Barbara Public Library
Dianne Catlin  Sam Brannan Jr. High School, Sacramento
Wesley Catlin  California State Library, Sacramento
Sheila Dowd  Map Library, University of California, Berkeley
John Fetros  San Francisco Public Library
Herbert Fox  College Library, Fresno State College, Fresno
Thomas K. Fry  San Fernando Valley State College, Northridge
Barry Gardner-Smith  Scripps Institution of Oceanography, La Jolla
Carl Gerle  Independent specialist in graphics, San Diego
Carlos Hagen  Map Library, University of California, LA
Mary Hoeber  Geography Dept., San Fernando Valley St. Coll.
Phil Hoch  Bancroft Library, University of Calif; Berkeley
C. R. Krieger  California Division of Highways, Sacramento
Mary Larsgaard  Central Washington State College, Ellensburg
Bea Lukens  Earth Sciences Library, Univ. Calif., Berkeley
Sharon McClure  Univ. Library, Univ. of Calif.-San Diego, La Jolla
Gail Neddermeyer  Govt. Pub. Dept., Univ. Calif., Riverside
Virginia Powell  San Fernando Valley State College, Northridge
Elizabeth Rivero  University of Redlands, Redlands
Barbara Robinson  San Fernando Valley State College, Northridge
Mary Schell  California State Library, Sacramento
Robert Sivers  Sci & Engr Library, Univ. Calif., Santa Barbara
Stanley Stevens  Map Library, University of Calif., Santa Cruz
Edward Thatcher  Map Library, Univeristy of Oregon, Eugene
Fredrica Whyte  Rancho Los Cerritos Museum, Long Beach
Evelyn Woodruff  Map Library, University of Calif., Los Angeles
Joey Wong  Calif. Dept. Water Resources, Sacramento

GUESTS:

Dr. Donald C. Davidson  University Librarian, Univ. Calif., Santa Bar.
Inez Haase  Mark Hurd Aerial Surveys, Goleta
Norman K. Neddermeyer  Around-The-Green Enterprises, Redlands
Maria Patermann  Head, Sci & Engr Library, UC Santa Barbara
RESULTS OF THE November 1971 POLL OF THE MEMBERSHIP
compiled by Mary Larsgaard, Secretary WAML

The Constitution of the Western Association of Map Libraries (as amended 9/69) requires that the Executive Committee consult with the membership before setting the time and place of general meetings. For several reasons, it was proposed that general meetings be annual rather than semi-annual as has been the custom since 1967. Therefore, the following results will guide the Executive Committee in setting meetings, their content, and location: (34 of 76 members responding)

1. 19 favor an annual meeting. 13 favor semi-annual meetings. [also, see discussion on this at Santa Barbara, Minutes pp. 46 ff.]

   Choice of Month:
   5 favor April  4 favor Oct
   5 favor May    2 favor Jun
   7 favor May & Oct  2 favor Spr & Aut

1 each for the following: Apr & Sep; Jun & Oct; Apr & Oct; Mar;
   Nov; Mar & Oct; Jan & Sep.

On the next portion of this question a typographical error in the initial poll may have resulted in some confusion. The correct wording is as follows: "Should WAML rotate the location of its meetings by establishing three regions as follows: Southern region (29° to 36° north latitude); and Central region (36° to 40° north latitude); and Northern region (40° north latitude to all points north, including Alaska). Hawaii is included in the Southern region."

RESULTS: 21 members voted YES; 4 voted NO; 3 voted for 2 regions.

2. 24 members favor 2-day meetings; 6 favor 3-day meetings (if annual meetings); and 1 member favors the 1-day meetings. Comments: one stated a preference for Saturday and Sunday meetings; a Canadian member cannot attend meetings in Calif., especially if the meetings are 1-day only.

3. Preference for Program Content: [preference indicated by #1 for the highest priority]

   papers & discussions  15 - #1
   12 - #2
   3 - #3
   0 - #4

   field trips  4 - #1
   5 - #2
   5 - #3
   12 - #4

   workshops w/leaders  9 - #1
   5 - #2
   8 - #3
   5 - #4

   guest papers  5 - #1
   8 - #2
   10 - #3
   5 - #4

   others: informal discussion: 4 votes
   comb. of above items: 2 votes
The following suggestions for topics for the next few meetings were made:

1. Acquisitions sources & ordering problems: 8 votes (one member suggested making this a regular topic once per year)
2. Classification and cataloging - practical experiences of various systems, including experience or opinions on MARC-Map: 5 votes
3. Preservation, techniques & storage: 2 votes
4. Mapping by satellite
5. Map filing techniques (as used in LC, Nat'l. Geog., etc.)
6. Producing maps for newspapers
7. Teaching map use
8. Map collections in college libraries
9. Interlibrary loan of maps
10. Education for map librarianship: 4 votes
11. Problems
12. Specialized fields
13. Union list
14. Developing proposals for cooperative acquisition of historical maps or other little used maps
15. Basics of map interpretation
16. Basics of map evaluation
17. Limitations and procedures for setting up a collection of aerial photography
18. Use of maps - by whom and how
19. National atlases
20. Geographic indexing systems
21. Computer-produced maps
22. Arrangement of map libraries
23. Globes
24. Depository arrangements for various map producing agencies - a panel
25. Maps of Mexico and Central America - or travel guides
26. Methods of processing and recording series
27. How about a "How we do it good" section at meetings?
28. Most useful series, maps, etc. for small libraries without large depository arrangements & beginning map collection: 2 votes
29. Different philosophies of what belongs in a map collection - "UCLA's travel folders vs. UCSB's lack of" (e.g.)
30. Job opportunities in map librarianship field
31. New applications and technology
32. Cost effectiveness analyses for different automated systems
33. Tools and techniques of cartography
34. Planned growth of map collections
35. Subject headings for maps
36. Publicizing map library to potential clientele; i.e., map displays and publicity methods: 2 votes
37. Administration; enlisting administrative support: 2 votes
38. Training of assistants
39. More attention given to routine needs of map libraries
40. Standards for map libraries.
41. Cartographic and geographic journals.
42. Trends in map libraries.
43. Problems of area entry; form of name, authorities, treatment of changes.

Seven members have indicated they will be available to present a paper, or participate in a panel discussion, of one or more of the topics above. Their suggestions have been passed along to our Vice-President (Program Chairman), Herbert Fox, for consideration.

4. Fifteen members voted in favor of alternating the location of meetings with other locations within California; thirteen voted for occasional meetings out of California; and, ten voted for the San Francisco Bay area.

5. "Create committees only on demand and under high motivation" was the preference of 17 members, while 12 want "one committee to recommend further possible direction"; six members voted to disband all committees, and four want the present committees retained and push harder toward action. Two persons asked if the function of the Executive Committee was, by its very nature, empowered with the responsibility of recommending further direction. Publication of "Minimum Standards for Map Libraries" was considered essential by three members.

6. Should WAML cooperate with other map and geography interest groups?

<table>
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<th>YES</th>
<th>YES BUT WITH CAUTION</th>
<th>NO OPINION</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>7</td>
<td>6</td>
</tr>
</tbody>
</table>

Of the 20 who answered YES, only 6 or 7 were vehemently YES, the rest were unconditional YES without elaboration. However, the YES BUT WITH CAUTION persons offered comments that explained the conditions they prefer. A few suggested forming one big map association in the future (far-off future implied), while others inveighed against such an idea.

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Editor's Note: Reference to the 1970 Questionnaire on WAML Meetings, published on page 26 of the Information Bulletin, Vol. 2, No. 1, October 1970, makes for an interesting comparison. Also, the straw vote and other discussions at the Santa Barbara Meeting should be noted; see Minutes, pp. 46 ff. of this issue.

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NEW MAP SERIES FROM MEXICO

by

Sheila Dowd
Map Librarian, UC Berkeley

"...five remarkable map series (new) from Mexico, all at 1:50,000: Carta topográfica; Carta geológica; Carta edafológica; Carta uso del suelo; Carta uso potencial"...
"We have received one sample sheet of each series, and an
index for the very good topographical series which indicates that
43 topographic sheets were published at the end of 1971, with many
more in progress. Price was not quoted.

For information and to order, address:

Ing. J. Alberto Villasana
Comisión de Estudios de Territorio Nacional
San Antonio: Abad No. 124 5o. piso
México 8, D.F.

The Comision is the publisher of all five series."

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JOB OPENING FOR MAP LIBRARIAN

Head, Canadian Section of The Map Division, Public Archives of
Canada, Ottawa. [Indicate "71-413-HR-ARC" on all Correspondence.]

The Public Archives requires an experienced research officer
for the position of Head of the Canadian Section of the Map Division.

Reporting to the Chief, National Map Collection, the incumbent
will administer the Canadian Section by developing, reviewing, evalu-
ating and revising the general objectives, priorities, quality of
specific projects in the section.

Candidates should possess a specialization in geography, cartog-
raphy and Canadian History with university graduation at the Hon-
ours Bachelor level. It is essential that candidates provide evi-
dence, through academic and work experience, of a detailed knowledge
of the history of mapping in Canada from the 16th century to the
present and a broad knowledge of world cartography. A good knowledge
of historical research methods and techniques, technologies used in
the production and conservation of maps, ability to prepare reports,
supervise, evaluate and train a staff of from five to twelve pro-
fessionals and support staff is necessary.

The position is presently classified at the HR 3 level with a
salary range of $13,836-$15,723 [Canadian].

Qualified candidates are invited to apply, submitting personal
resumes outlining their experience and achievements in the work
areas discussed above, to the:

Public Service Commission of Canada
Social Economic Program - HR Group,

Place De Ville, Tower "A",
Ottawa, Ontario.
K1A OM7

[The Editor invites readers to submit similar listings for publi-
cation in the Information Bulletin.]
FRESNO STATE COLLEGE
THE LIBRARY
A Survey of the Map Collection.
February 1972

by

Herbert S. Fox, Map Librarian

The Library views its Map Collection as a resource for reference and research to be used by students and faculty in all schools and departments of the College. Consequently, maps are available in the Reference Department whenever the Library is open, and most of them may be circulated to both faculty and students.

There are presently over 45,000 sheet maps in the Map Collection. The areas of greatest emphasis are the United States, Canada, Central and South America, and Europe; however, there is generally adequate coverage at medium and small scales for most parts of the world. [See Recent Atlas & Map Acquisitions list at Reference Dept.]

The general description on the following pages will serve to indicate the scope of the Map Collection. Items marked * are depository materials and holdings may be expected to be quite complete.

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<th>Area &amp; Description</th>
<th>No. of Sheets</th>
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<td></td>
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</tr>
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<td>Inst. of Marine Resources</td>
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<tr>
<td>World aeronautical &amp; navigation charts. Scale 1:1,000,000</td>
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<td>U.S. Air Force</td>
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<td>GENERAL MAPS</td>
<td></td>
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<tr>
<td>Many single-sheet maps of the world, continents, countries, states, counties, areas, and cities. (suitable for reference, display, instructional purposes, etc.)</td>
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<tr>
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<td>National geographic, The Canadian geog. journal, etc.</td>
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<td>RECREATIONAL &amp; TRAVEL MAPS</td>
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<td>Administrative ranger unit maps</td>
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<td>Calif. Division of Forestry</td>
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<tr>
<td>Cruising charts [U.S.]</td>
<td>10</td>
<td>Texaco Waterways Service</td>
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<tr>
<td>Kym's guide maps [Calif./Mexico]</td>
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<td>Triumph Press</td>
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National forests [Calif. only]  39  U.S.D.A. Forest Service
Road maps: California  207  A.A.A., Enco, Shell, etc.
          Europe       6  Michelin
          United States 128  Enco, Shell, State highway
departments, etc.

THEMATIC MAPS
  Bioclimatic map of the Mediterranean region   2  Unesco
  *Bouguer gravity map of Calif.        4  Div. of Mines & Geology

Geological maps:
  *Geologic quadrangle maps  903  U.S.G.S.
      Series GQ [U.S.]
  *Geologic map of Arizona  11   State Bureau of Mines
  *Geologic map of Calif.  27   Div. of Mines & Geology
  Geological map of Africa  2   Unesco
  International geological
      map of Europe 9   Unesco
  International tectonic
      map of Africa  9   Unesco
  *Map sheets [geology -  13   Div. of Mines & Geology
      California]
  *Miscellaneous geologic
  *Geophysical investigations maps 787  U.S.G.S.
      Series GP. [U.S.]
  [Great Britain] Ten-mile maps.  18  Ordnance Survey
  *Hydrologic investigations atlas. 576  U.S.G.S.
      Series HA. [U.S.]
  Metallogenic map of Europe  2   Unesco
  *Mineral investigations field
  *Mineral investigations resource  8  U.S.G.S.
      map. Series MR. [U.S.]
  San Francisco Bay region environ-
      ment & resources planning study. 16  U.S.G.S.
      Basic data contributions.
  United States maps [demonstra-
      ting map projections] 8  U.S. Coast & Geodetic Surv.
  United States maps, series  35  U.S. Bureau of the Census
      GE-50
Vegetation maps of the Mediterranean region

TOPOGRAPHIC MAPS

The U.S. Army Topographic Command has placed a large collection of maps and gazetteers on deposit in the Library. Presently the maps number 31,871 sheets. There are topographic maps, raised relief maps, charts, and city plans. Most parts of the world are included but the best coverage is available for those areas which have been the scenes of military conflict over the past thirty-three years. There is no restriction on the use of USATOPOCOM maps in the Library, but only faculty members with offices on campus may charge them out of the building for on-campus use.

In addition to maps in the USATOPOCOM Collection, the following series of topographic maps are housed in the Reference Department:

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<th>Area &amp; Description</th>
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<td>Dept. of Energy, Mines &amp; Resources</td>
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<td>Direccion Gen. de Geog. y met.</td>
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<td>U.S.G.S.</td>
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<tr>
<td>World. International Map of the World, Karta Mira. Scale 1:2,500,000</td>
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<td>various publishers</td>
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