# Information Bulletin

Volume 18 Number 2 March 1987

# Western Association of Map Libraries

*"... to encourage high standards in every phase of organization and administration of map libraries..."*

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The Executive Committee of WAML, at its Sept. 11, 1986 meeting in Eugene, increased WAML rates $5.00 per category as follows:

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# Disaster Planning Analysis Study: Seismic Dangers at the UCLA Map Library

by

Carlos B. Hagen
Head, UCLA Map Library

When we discuss seismicity, I feel it is important to have an overall understanding of the natural forces we are dealing with. This is why I begin with a very brief outline supplemented by some maps.

## Personal Interest

I was raised in Chile, a country with a high frequency of seismic activity, and I witnessed many destructive earthquakes there. At the University of Chile's School of Engineering I became a student assistant in the Seismological Institute. I also took quite an interest in loads and stresses on building materials, especially relating to seismic motion. All of this, plus witnessing firsthand the destructiveness of earthquakes has given me quite an awareness of this problem.

## Nature of Earthquakes

Today, our better understanding of earthquakes is possible through the concept of "plate tectonics". The idea was first expressed around 1910 by a thirty-year-old German meteorologist, Alfred Wegener, in his theory of continental drift. For over half-a-century, Wegener's ideas were generally scorned, rejected and suppressed. Only in a few places in Germany and some South American countries were his ideas considered to have some validity. While at the University of Washington, I recall some run-ins I had with earth scientists at that university, due to my advocacy of those ideas. I have been told that here, at UCLA, at the Department of Geology, advocacy of the plate tectonics was tantamount to a "kiss of death" for faculty in terms of tenure and promotions well into the 60s.

However, during that same period, undersea explorations and drillings began to show startling new evidence about sea floor spreading in the areas that had been predicted by Wegener. In a few years, one of the most stunning reversals in the history of earth sciences took place. What for so long had been scorned and rejected, was now enthusiastically embraced. Plate tectonics became the generally accepted concept for understanding seismicity, formation of mountains and undersea trenches, and volcanic activity. Precise satellite measurements have also validated these ideas, and in later years, plate tectonics has been considerably refined with continuous and startling new discoveries.*

More and more, continents appear as conglomerations of large islands that, through the eons, have been pushed and welded one to the other. This process has been going on for millions of years, and most likely will continue going on for millions of years more. These steady and continuous drifts take place at the rate of a few centimeters per year. The attached maps and graphs give a clear idea of this process.

**The Earthquake Process**

The basic cause of earthquakes is quite simple and logical. The large "plates" or "islands" float on a hot, plastic "mantle". As they press or slide against each other, or separate, or even slide under each other, these steady, constant pressures cause tremendous strains on the immense layers of rocks forming these islands or plates. Depending on the elasticity of the rock layers, these layers twist, bend, are compressed or expanded. The result in the areas of stress is thousands upon thousands of fractures that may vary from thousands of miles to just a few miles. These are the "faults". The accumulation of strain energy along these faults eventually exceeds the elasticity of the rocky layers. This rupture marks the sudden release of stored energy, creating vibration waves, which are the earthquakes. The main rupture is generally followed by secondary, smaller accommodations, releases of residual energy, which are the aftershocks. Then, the process of storing energy due to the steady, relentless internal motions and pressures of the plates begins all over again, to be released years, decades, or sometimes centuries later, depending, again, on the nature of the movements and the physical and chemical properties of the rocks undergoing those pressures.

One important fact we must emphasize and always keep in mind is that earthquakes are natural phenomena as logical, as normal, as rain, snow, or wind. The only difference is the time scale. Instead of days or months, their intervals are in the range of years or decades.

**Triggering Mechanisms**

What triggers an earthquake, what causes that sudden release of stored energy is the subject of many speculations. Again, the mechanism is simple. The strain in the layers of rocks achieves such an unstable state that even relatively minute forces may act as triggering devices. Some of the rocks may just give up, due to some steam, temperature or pressure changes, or chemical reactions. Even solar, lunar, and planetary gravity might conceivably act as a triggering force.

**Prediction of Earthquakes**

For decades, we have been hearing that prediction of earthquakes is in its infancy, and probably for many decades to come, we will

still hear that same claim. In theory it is possible to predict earthquakes. At any school of engineering, predicting when a piece of material subject to stress will break can be achieved with a fairly good degree of accuracy. However, most of the parameters are well known: intensity and direction of the forces, and the physical and chemical nature of the material subject to stress. In nature, the process is almost infinitely more complex. First, we should have a fairly good knowledge of the physical and chemical character of the layers of rock of a plate, especially along the areas subject to stress. Then, we should have millions of sensing points located from the surface to hundreds of kilometers deep, sending their readings constantly to a gigantic network of computers. All of this is, of course, most unlikely to happen in the foreseeable future. In the meantime, all we can do is to rely on statistical probability and relatively crude surface measurements. Some other techniques of prediction are also being explored, e.g., the release of minute amounts of rare gasses or radioactivity, changes in local gravity and magnetism, and precise measurements of the pull exercised by the sun, the moon and the planets. Even ESP and pre-cognitive behavior of animals are some aspects that have been seriously considered.

**California Seismicity**

The accompanying maps give a sobering view of California as a very active seismic area of the earth. The first one gives an overall view of the state, with only some of the major faults portrayed. The second one showing the general area of Los Angeles gives, in greater detail, the large number of faults existing in this region. Each one of those faults might have the potential to cause destructive earthquakes from 6.0 to 8.0 magnitude. The Inglewood fault is the one that is theorized as having greatest potential for severe damage to the UCLA area.

**Location of Bunche Hall**

A topographic map of the UCLA area depicts the location of Bunche Hall on the campus. Also included is an engineering contour plan of 1927, on which I have superimposed the present location of Bunche Hall in which the UCLA Map Library is located. Also attached is an early aerial photograph of the area, made in 1932. As can be seen, Bunche Hall is located mainly on a landfill that, used to be the confluence of two gullies, with a depth of about fifty feet in relation to the surrounding area. It is generally considered that landfills are not the best places to build high-rises, especially in terms of earthquake safety. Presently, there are some very strict regulations governing landfills, especially in terms of type of material used, and degree of compactness. I do not know what standards existed at the time those gullies were filled. Neither do I know the construction and engineering details of Bunche Hall, and the type of foundations and anchoring used. However, the history of the site of this building gives cause for concern. A recent engineering survey reveals even though it is relatively new (1964) Bunche Hall has

been graded as one of the poorest buildings on campus, especially in terms of earthquake safety. We and other occupants of the basement and ground floor of this building have noticed, in the past few years, some continuous misalignments of the doorjambs, some cracks that might be structural and some slight deviations on the horizontality of the floors. These observations might conceivably reveal some structural deficiencies of this building, especially in terms of its foundations. I attach here a copy of an article describing the serious problems of seismic safety affecting UCLA. This article appeared in the Los Angeles Times on the 19th of October, 1985.

**Earthquake Scenario**

A scenario for an earthquake of the magnitude of 7.5 would be extremely grim, given our location. As may be seen in the enclosed article, and in what I have said, I feel that we have legitimate reasons to suspect some structural weaknesses in Bunche Hall, due either to construction or the site on which it is placed. In our location, the most immediate effect would be the complete collapse of the map cases in the stacks which are presently piled up to six high, completely unreinforced, stabilized or anchored. Most of these map cases would probably suffer irreparable damage. I am not speaking simply in theoretical terms, but based on the severe damages suffered by the map library at California State University in Northridge during the February 1971 earthquake. It had a magnitude of 6.6, and an epicenter located fourteen miles from the Northridge campus. The damage to that map library was severe, and it took weeks to return it to normal operations. If an earthquake occurs during working hours at UCLA, anyone standing between the rows of map cases might be maimed or killed instantly due to the collapse of map cases and the guillotine action of the map drawers. Moreover, if serious structural damages occur at Bunche Hall it is likely that most of the occupants of the basement and first floor would be trapped.

But, there is still another consideration that is extremely disturbing. The Stone Canyon Reservoir, located only two miles north of campus, could break, releasing its store of water. The attached map, prepared by the City of Los Angeles Department of Water and Power, was made precisely to calculate these eventualities. It shows that it would take only seven minutes from the moment of rupture for that mass of water to flood the northern and central part of the UCLA campus. Since the Map Library is in a basement area, this water would, in a matter of minutes, flood it, drowning anyone who might have survived the earthquake. The lasting results, in terms of material losses, would be catastrophic.

On seeing the flood map one may theorize that in the event of rupture of the reservoir the water released might not reach Bunche Hall due to the higher elevation. However, this assumption does not consider soil movements and wreckage that might act as secondary dams raising the level of flood waters. But, still

another consideration, and perhaps even more serious is the likely rupture of water pipes. The immense losses suffered by the Stanford University Library a few years ago when a water main accidentally ruptured is an ominous warning of what could happen in the event of a major earthquake. The danger of floods in basement libraries is, in my opinion, a most severe threat, one that, unfortunately, seems to be vastly ignored or too easily disregarded when planning library facilities.

After the fire that affected the Los Angeles Public Library, it was a relatively simple task for hundreds of volunteers to remove wet books from the shelves for quick-freeze and subsequent dehydration. At the Map Library, on the other hand, in an earthquake scenario, it is quite likely that heavy equipment would be needed. First, to gain access to the basement area and pump out flood water, and then, to remove collapsed and damaged steel cases. Moreover, the resources of the community might be so strained it is conceivable that days might pass before such a rescue operation could be undertaken. By that time, due to the nature of the materials, most or all of the collection might have suffered irreparable damages. Under such conditions it is a serious possibility that what is now the largest academic cartographic collection in the country might be totally destroyed.

## Dangerous Complacency

In countries such as Chile or Japan, seismic activity is quite high. Virtually every month, one experiences earthquakes of 4.5 to 5.0 magnitude and about once a year there may be earthquakes with a destructive magnitude in the range of 6.0 or more. All of this contributes to the development of a national consciousness and awareness of these phenomena. In California, where seismic activity is not as frequent or acute, destructive earthquakes may occur every two or three decades. This creates a very dangerous atmosphere of complacency. In recent years, and especially after the 1971 earthquake, dozens of reports and booklets have been produced ranging in content from highly technical studies to popular advice on seismic safety. I am fairly sure that most of them are stored away or shelved, virtually unread.

After the 1971 earthquake in San Fernando, I formed part of a committee surveying the seismic safety of the Powell Library Building. We worked closely with architects and engineers, and we inspected this building as well as others. Our findings were very disturbing. To our disbelief, we later learned that funds for the seismic upgrading of these buildings had been vetoed by the State Governor on the grounds of "economy". Years later, many of us were equally shocked seeing the multimillion dollar refurbishment of Royce Hall without bringing that structure to contemporary standards of seismic safety.

## California Earthquakes

The 1971 San Fernando earthquake caused considerable alarm among

engineers, architects and seismic experts. It was produced by a fault known as a "thrust fault" causing unusually severe ground motion and rupture. A report produced by the U.S. Geological Survey states:

> "... the San Fernando earthquake is not an isolated 'freak' event, but one which we must presume will recur in the future.... Probably the most significant and certainly the most surprising body of data recorded during an earthquake is a unique collection of strong-motion accelerograms ... the ground accelerations produced by this moderate magnitude (6.6) earthquake were the highest ever recorded, that is in the 0.5 to 0.75-g range with several high frequency peaks to 1 g. These records will surely lead to a careful reassessment of earthquake-resistant design criteria because they indicate ground accelerations several times greater than those commonly assumed in building criteria for seismic regions."

This, and much other data gathered as a result of the San Fernando earthquake has led to considerable modifications in architectural and structural design. Any modern building erected prior to 1971 may not conform to the new safety standards. This is presumably the case with Bunche Hall and a good number of other buildings on this campus.

**Effects of Earthquake Motion on Structures**

The attached illustrations taken from a number of books on architecture and civil engineering related to seismicity give, I believe, a clear and concise picture of the forces in motion during an earthquake.

The stacks of map cases could be compared -- especially in terms of lateral forces -- to multiple story buildings. Since multi-story buildings have grids of steel re-enforcement, they have an acceptable degree of elasticity during seismic motions. With stacks of map cases, this is certainly not the case. Even with moderate motion, the cases would slide and collapse, one on top of another. This would be compounded by heavy steel drawers sliding outwardly on rollers and ball bearings.

In a map library, steel map cases are made of two components. One is the frame or hull. These frames are stacked one on top of another, and are held in place through some narrow flanges of sheet metal. These flanges obviously cannot be effective during even a moderate magnitude earthquake. The other components are the five steel drawers that slide into the frame through rollers and ball bearings. I have discussed these matters of seismic safety of this equipment with manufacturers. Unfortunately, there is no easy answer. One is, of course, extensive modifications of design that no manufacturer is willing to undertake. One solution

advanced is to provide individual drawers with some sort of locking mechanism that would add considerably to the price of the equipment. Another solution is to attach lateral steel bars to stacks of map cases. These are similar to those that are customarily placed on filing cases in defense organizations for purposes of military security. However, as may be seen by the attached diagrams, locking mechanisms and lateral bars would become quite ineffective in the upper portions of the stacks of cases, which are precisely the most dangerous during an earthquake. The obvious reason is that at increased heights, lateral motion and acceleration experience rapid increases. However, these mechanisms could be relatively efficient at lower heights up to a height of two or perhaps even three frames.

**Height Versus Area**

For decades, the general thinking in the design of map libraries has been to place them in basements or on ground floors. This makes possible the stacking of steel map cases up to the height of six to seven frames. Since this considerable load is placed on a concrete slab on natural ground, there is no need to worry about the heavy structural loads this represents. The stacking of six to seven frames, with five drawers each, and all of them filled with maps, would represent a floor load that might well exceed 300 lbs/sf, which is considerably more than the average tolerance generally considered in the design of library buildings (generally 200 - 250 lbs/sf).

Because of the serious seismic considerations, including flood dangers, discussed in this report, I feel much more inclined to decrease the height of the map cases, which would require a doubling or tripling of the area originally allocated. I definitely feel that in the long run this is the wiser solution; one that has already been adopted at other campuses of the UC system, such as Berkeley, San Diego, and Santa Barbara. Even though more floor space is needed, there are other advantages that should be pointed out. One is that it is no longer mandatory for the location of a map library to be placed on a basement or ground floor. Stacking two and even three frames of map cases, one atop another, all of them loaded with maps falls within the floor tolerances generally designed for library buildings. This would provide ample working space (especially stacking two frames high) which in turn would diminish requirements of space for a reading room, and provide additional working space. Also, this would not require extra tall ceilings needed to stack up to six or seven frames high. But, the most important consideration is that stacking steel case frames only two or three high would make it far easier to install safety locking mechanisms or lateral bars that would greatly increase the seismic safety of these installations.

**Recommendations For the UCLA Map Library**

I have presented grim but realistic facts that I feel speak for

themselves regarding the seriousness of the situation we all face. I feel that one of the most urgent needs for the administration of any library system on any campus is to find a safe location for its Map Library. I feel that the ideal at UCLA would be the relocation of this facility in the projected new unit of the library, which is now a very serious possibility. This would discharge management's responsibility for the safety of our staff and the preservation for future generations of a magnificent collection, the largest of its kind in the United States.

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* Perhaps, for obvious reasons, not much about this incredible turn around is found in most scholarly publications. One of the best accounts written on this stunning case of suppression followed by sudden acceptance, and its background, can be found in the Chapter "The 'Impossible Hypothesis'", in the book by Russell Miller: Continents In Collision, (Time-Life Books, Alexandria, VA., 1983, 176 pp.)

Some of the other works used in this report:

U.S. Geological Survey and National Oceanic and Atmospheric Administration: **The San Fernando, California Earthquake of February 9, 1971**, Washington, DC, USGPO, 1971, 254 pp.

R.W. Clough, K.L. Benuska, and T.Y. Lin & Associates: **Federal Housing Administration Study of Seismic Design Criteria for High-Rise Buildings**, A Report Prepared for the Technical Studies Program of the Federal Housing Administration, Washington, DC, Federal Housing Administration, 1966, 347 pp.

City of Los Angeles Department of City Planning: **Seismic Safety Plan**, A portion of the General Plan of the City of Los Angeles, Los Angeles, CA, 1975, 16 pp.

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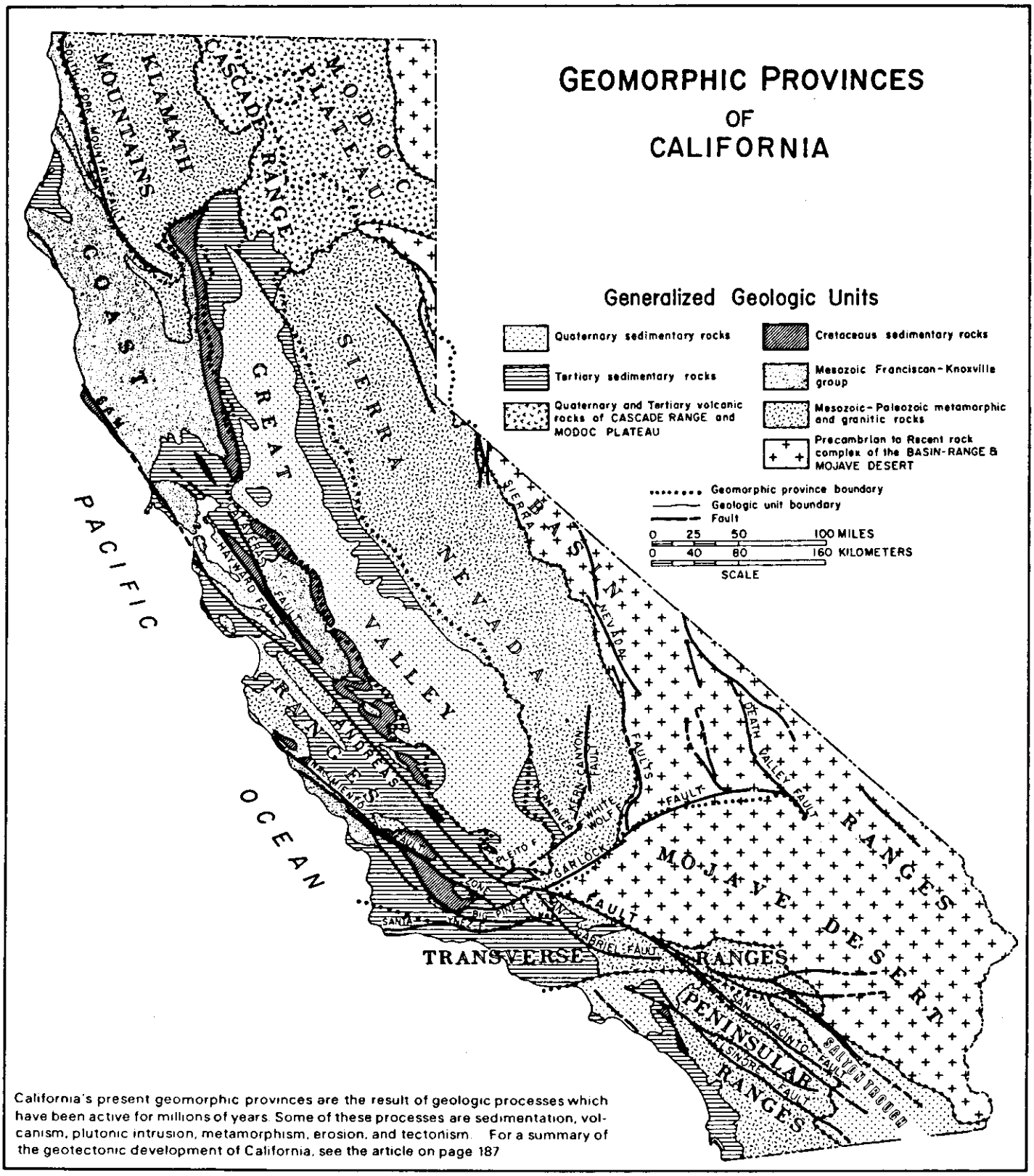
## Illustrations

1. Geomorphic Provinces of California (from California Geology)
2. Major faults in the Los Angeles region (CA DM&G Bull. 196)
3. Topo of UCLA campus with Bunche Hall noted (USGS)
4. 1927 contour map of UCLA campus with Bunche Hall noted (UCLA)
5. 1932 Aerial Photo of UCLA campus with Bunche Hall noted
6. "2,000 at UCLA Could Perish in Quake, Study Shows", by Scott Harris and David Smollar (Los Angeles Times 10/19/85)
7. Displacement diagrams: Longitudinal & Transverse
8. Earthquake motions of buildings
9. Flood Plain "Inundation Map of Stone Canyon Dam (LA County)

CALIFORNIA GEOLOGY

September 1979

# CALIFORNIA AND PLATE TECTONICS




California's present geomorphic provinces are the result of geologic processes which have been active for millions of years. Some of these processes are sedimentation, volcanism, plutonic intrusion, metamorphism, erosion, and tectonism. For a summary of the geotectonic development of California, see the article on page 187

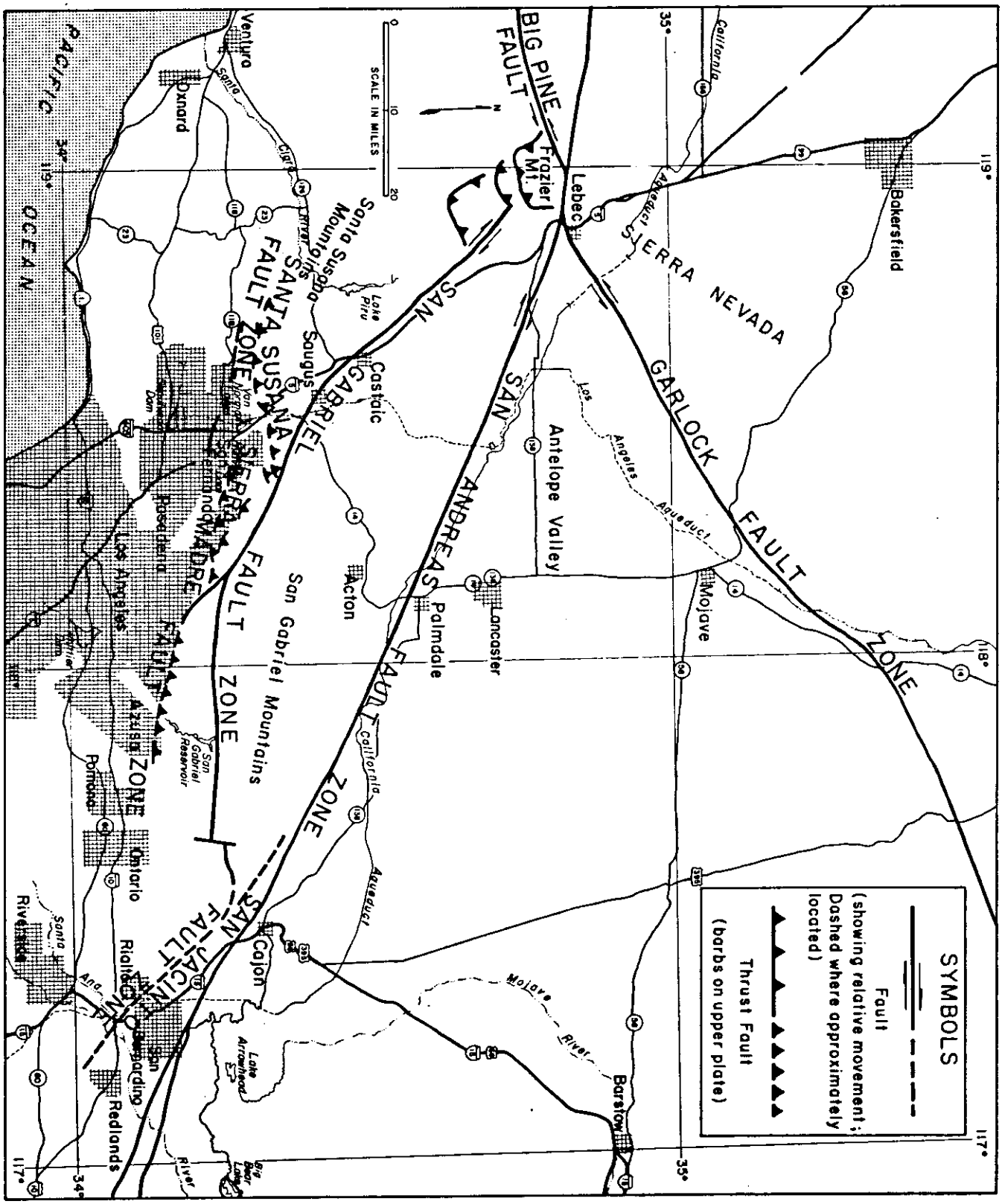
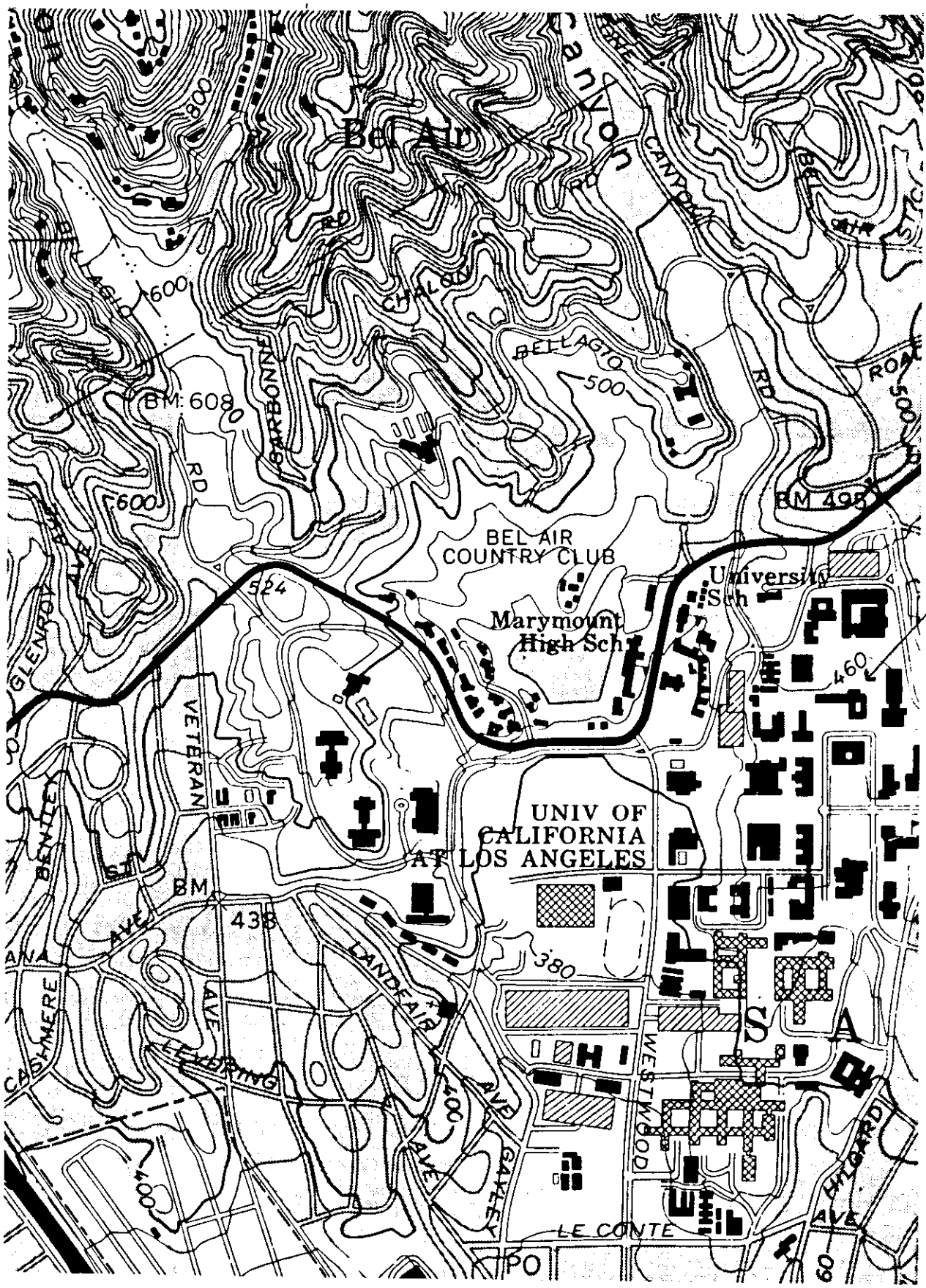
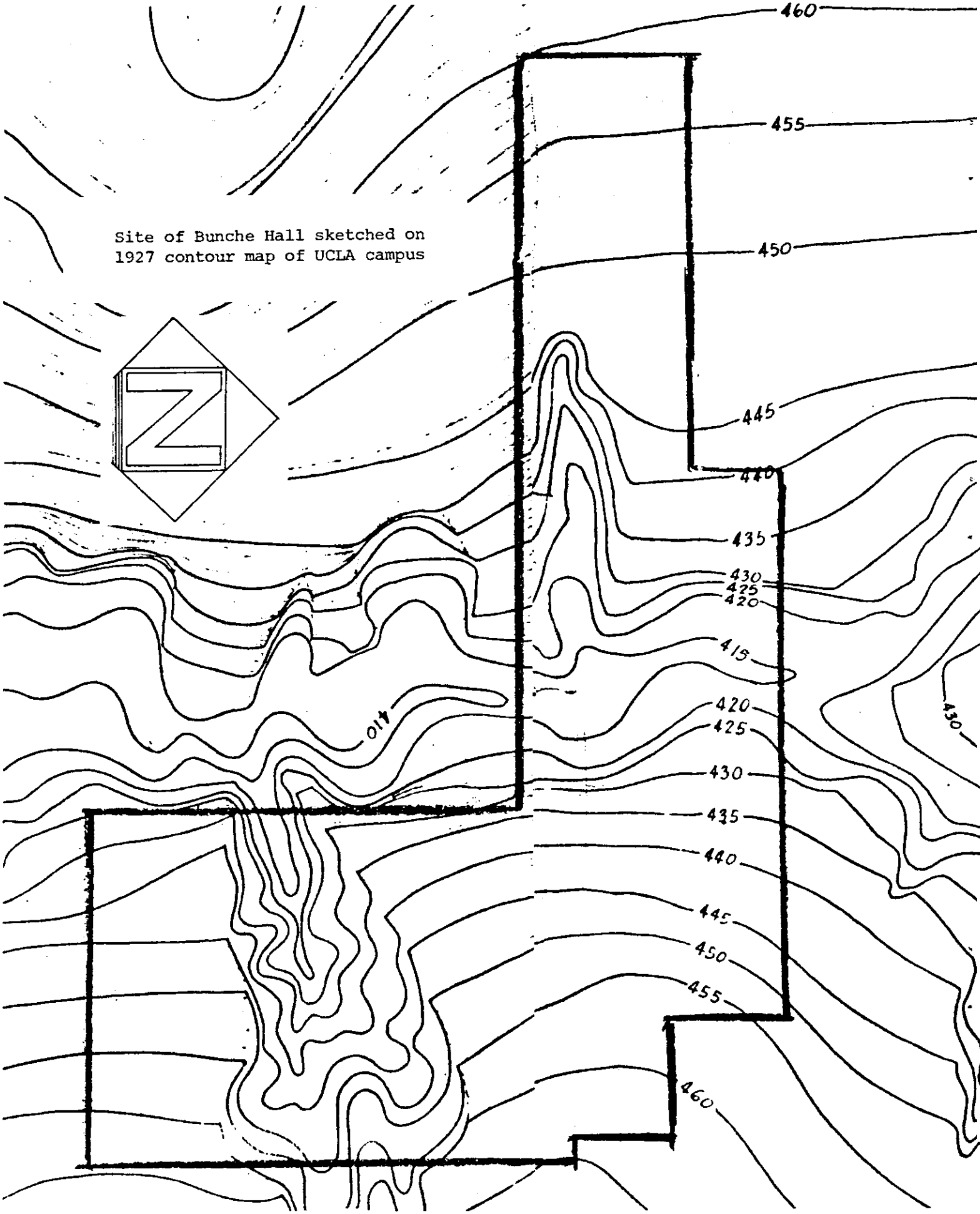



Figure 1. Index map of a part of southern California showing San Fernando earthquake area and major faults.




Topographic map of UCLA campus and vicinity.
Bunche Hall is below contour notation 460.


Site of Bunche Hall sketched on
1927 contour map of UCLA campus
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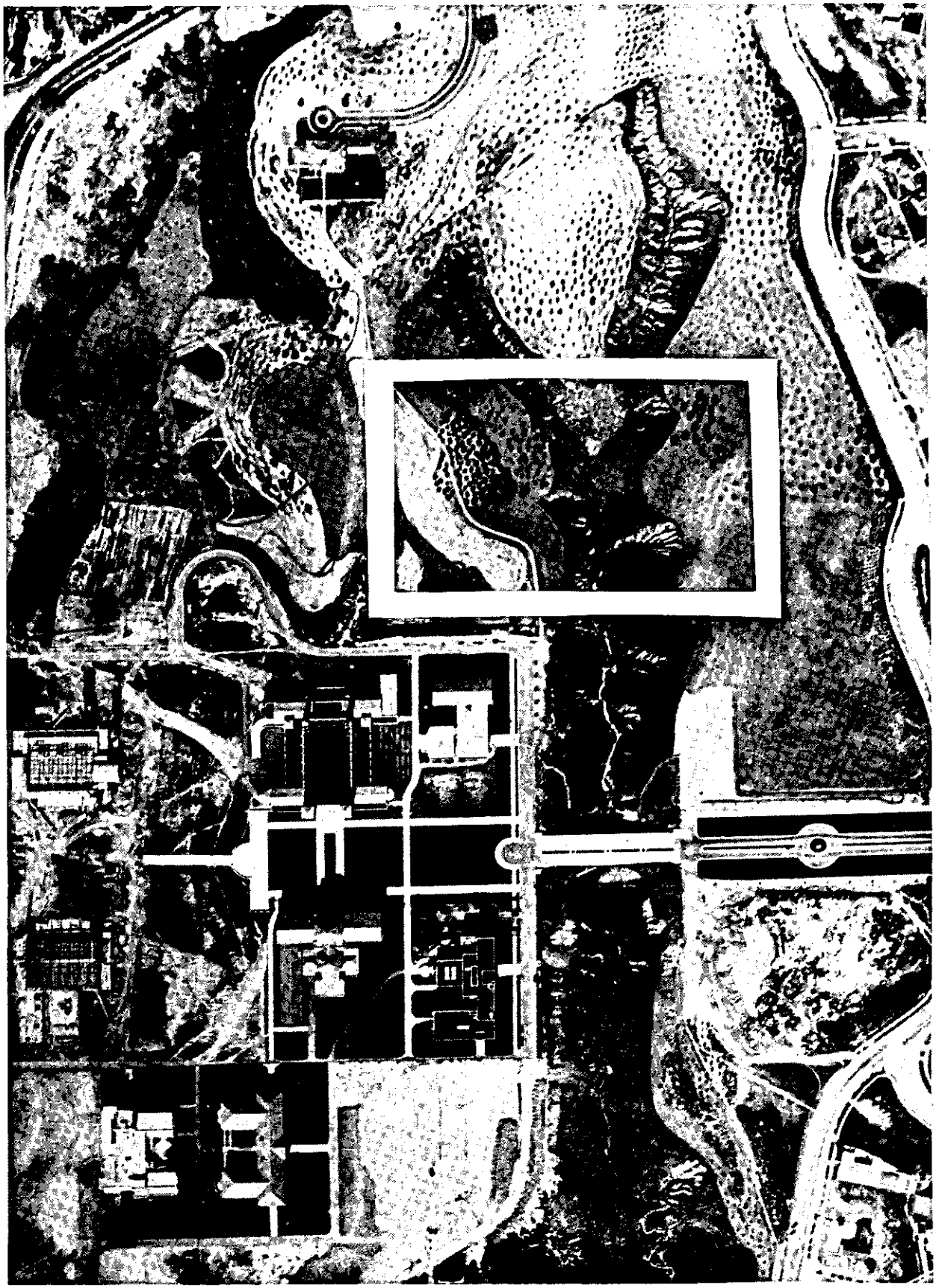


1932 aerial photo of UCLA campus. Bunche Hall was built on site shown within small rectangle in the upper right center of photo.

Los Angeles Times
Saturday, October 19, 1985

# 2,000 at UCLA Could Perish in Quake, Study Shows

## Panelists Ask State to Help Avert Disaster

By SCOTT HARRIS
and DAVID SMOLLAR,
*Times Staff Writers*

When the next giant earthquake rumbles through Southern California, UCLA will be left in a shambles. Royce Hall, Powell Library, four dormitories and several classroom structures could crumble and collapse. The number of deaths on campus could approach 2,000 and serious injuries could exceed 4,000.

Those are the conclusions of a recently released UCLA committee report that identifies 25 campus buildings—some constructed as recently as 1968—as "very poor" or "poor" in terms of seismic safety. Titling their report "A Campus at Risk," the joint faculty-administration committee calls for strong, concerted lobbying for state funds to reinforce the buildings and avert catastrophe.

After two years and 15 meetings, the committee completed its study on the day of the first of the recent Mexico City temblors, timing that seemed fortuitous to some committee members. They and other advocates statewide of aggressive seismic safety measures reason that now—finally—the University of California regents, the state Legislature, the governor and the public at large is sufficiently alarmed to take action.

Even as political momentum gathers, however, seismic safety advocates say the UCLA report serves as a reminder of how little has been done in recent years to upgrade seismically unsafe buildings not only at the Los Angeles campus but throughout the nine-school UC system and other state institutions.

Committee members acknowledge that "A Campus at Risk" provides little new information but largely reconfirms and re-emphasizes the little-publicized findings of engineering surveys conducted at UCLA in the early 1970s and for the entire UC system in 1978 and 1981. Those earlier studies also were re-emphasized in a 1981 survey by the California Seismic Safety Commission that found 250 of 1,350 state-owned buildings, including many hospitals as well as UC and state university structures, to be potentially unsafe in an earthquake.

Seismic safety advocates complain that efforts to upgrade unsafe structures have been slowed by a scarcity of funds and a bureaucratic bog—committees and studies—but little action. At a time when seismologists say the southern San Andreas Fault is overripe to produce a devastating temblor hundreds of times more powerful than the 1971 San Fernando quake some time in the next 30 years, university chancellors and other prominent officials have pursued new construction projects and other financial priorities rather than seeking money to upgrade unsafe buildings.

"This all comes down to priori-

**Please see UCLA, Page 3**

### UCLA'S LEAST QUAKE-PROOF SITES

UCLA has identified these buildings as seismically poor or very poor:

**VERY POOR**

| Building | Const. Date |
|---|---|
| Bunche Hall Tower | 1964 |
| Franz Hall Tower | 1965 |
| Haines Hall | 1927 |
| Kerckoff Hall | 1930 |
| Kinsey Hall | 1928 |
| Knudsen Hall | 1961 |
| Men's Gym | 1932 |
| Moore Hall | 1928 |
| Powell Library | 1927 |
| Royce Hall | 1929 |
| Women's Gym | 1932 |

**Residential Buildings**

| | |
|---|---|
| Dykstra Hall | 1957 |
| Hedrick Hall | 1961 |
| Rieber Hall | 1961 |
| Sproul Hall | 1958 |

**POOR**

| Building | Const. Date |
|---|---|
| Clark Library | 1924 |
| Univ. Extension | 1968 |
| Haines Addition | 1934 |
| Math Sciences | 1957 |
| Parking Garage at Gayley-Landfair | 1961 |
| Slichter Hall | 1965 |
| School of Dentistry | 1963 |
| Jules Stein Eye Inst. | 1964 |
| Rehabilitation Center | 1963 |
| School of Public Health | 1966 |

**FAIR**

**Residential Buildings**

| | |
|---|---|
| Hershey Hall | 1931 |
| Univ. Residence | 1930 |

Los Angeles Times

# UCLA: 2,000 Could Die in Major Quake, Committee's Study Shows

**Continued from Page 1**

ties," said Robert A. Olson, former executive director of the California Seismic Safety Commission. The UC system "made some reasonable runs at money, but it was nothing they were going to go to the mat over."

The system has made stronger efforts in the last two years, receiving funds to begin renovation of historic South Hall at UC Berkeley and requesting money in the 1986-87 budget to study upgrading of UCLA's Powell Library and begin architectural work for retrofitting Berkeley's Wheeler Hall.

"We've made forcible efforts. . . . I can't manufacture money," said UCLA Chancellor Charles Young.

At UCLA—the campus that faces by far the greatest earthquake peril—there are complaints that the administration has failed to inform students, faculty and the public about the danger. Some professors who recently attempted independent research of seismic safety on campus said their efforts proved so frustrating that they suspected that officials were "stonewalling," perhaps trying to protect the image of the institution.

"Certainly, responsible officials in the university have known for years what the situation is. . . . I don't think there has been any administration effort to foster awareness," said Ralph Turner, a UCLA sociology professor who was a member of the earthquake study committee.

### 'It's a Death Trap'

Turner teaches in Haines Hall—a 1927 building considered very vulnerable in an earthquake. "I know my colleagues are all aware of the fact that it's a death trap. The students—to what extent they know, I'm not sure," he said.

## UC EARTHQUAKE SAFETY

More buildings at UCLA are considered unsafe in an earthquake than those at any other campus in the UC system.

| CAMPUS | BUILDING RATINGS (In thousands of square feet.) | | |
|---|---|---|---|
| | Total Space | Poor Rating | Very Poor Rating |
| Los Angeles | 12,316 | 1,379 | 2,050 |
| Berkeley | 9,744 | 1,382 | 419 |
| Davis | 5,146 | 717 | 301 |
| San Diego | 4,377 | 474 | 500 |
| Santa Barbara | 3,179 | 468 | 71 |
| Irvine | 2,603 | 401 | 132 |
| San Francisco | 2,783 | 155 | 0 |
| Riverside | 2,131 | 583 | 41 |
| Santa Cruz | 1,861 | 280 | 0 |

*Source: UCLA report based on surveys by H.J. Degenkolb & Associates, Engineers*

"A Campus at Risk" urges that UCLA prepare and widely distribute an annual report on the state of earthquake preparedness. The committee points out that the UC president warned the regents in a September, 1981, memo that the system's "general counsel has recommended that occupants of buildings whose seismic resistance has been tentatively rated very poor or poor be notified if funding for further engineering studies or necessary corrective work will be significantly delayed." Such notification was recommended as a means of preserving immunity from liability.

"Should this be done?" the committee asked.

The report also points out that the university has at times taken action that contradicts it own seismic safety policy, citing the recent $13-million cosmetic refurbishment of Royce Hall as an example.

The report states: "The renovation will bring more people and activities to an attractive 'new' Royce Hall, while university policy states that, 'For buildings and other facilities which are reported as poor or very poor by the consulting structural engineer, the chancellor . . . shall immediately consider alternatives to undiminished continued use . . . including temporary emergency measures, reductions in use, reconstruction or combinations of these alternatives.'"

The committee also warned that the university's "lack of planning, and the avoidance of low-cost but high-benefit actions, could add to the legal liability. The recent Royce Hall renovation, as a missed opportunity for seismic upgrading, may possibly present special liability."

The report further notes that UCLA, as state property, is exempt from the jurisdiction of the city Department of Building and Safety, thus allowing the Royce Hall refurbishing to take place without any seismic upgrading.

Michael McManus, assistant vice chancellor for public information, also was on the earthquake committee. He said the reports were available to the public but added, "I don't know how widely the previous studies were circulated."

"The reason we're criticized is because we appointed this committee and we're trying to do something about it. . . . If we hadn't done anything, there wouldn't be any kind of criticism," said Chancellor Young. All of the committee's recommendations have been adopted by his cabinet, he said.

Young said that UCLA has sought funds for seismic retrofittings—including one at Royce Hall—every year since the 1982-83 budget but that those requests have been denied.

Surveys of the UC system by the engineering firm H.J. Degenkolb Associates in 1978 and 1981 identified hundreds of buildings deemed seismically unsafe. The cost for upgrading the buildings at UCLA alone has been estimated at $140 million.

**Campus Responsibility**

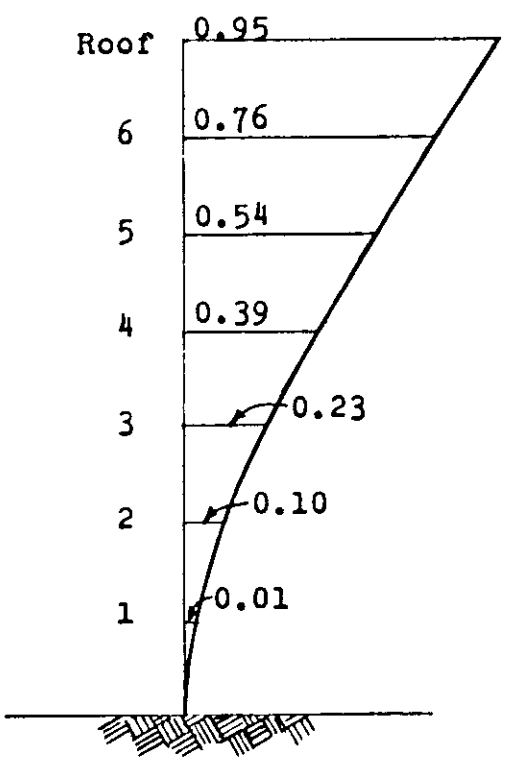
After the Degenkolb studies, the UC system and campuses also had to wrestle with the problem of how to handle the information that so many structures were seismically unsafe. Committee members say that, despite the general counsel's warning in 1981, the decision on how or whether to publicize the reports was left to each campus.

Sam Aroni, an engineering professor and chairman of the earthquake committee, said he does not find fault in the administration's handling of the information. "I don't know of special attempts to disseminate the information, but that doesn't mean there was an effort to keep the information not available."

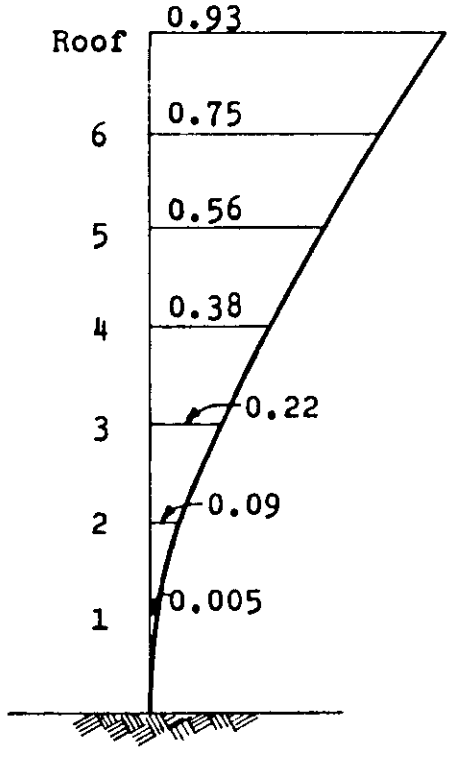
Two other professors, however, Wellford W. Wilms and Julia Wrigley, said they were frustrated by administration officials and committee members when they inquired into the safety of campus buildings following the Mexico quake. After several days of effort, they were able to obtain copies of the Degenkolb studies after contacting UC system officials in Berkeley and the Degenkolb firm.

Wilms said their experience led them to believe that university officials were "stonewalling" and deliberately trying to suppress information—assertions that administration officials deny.

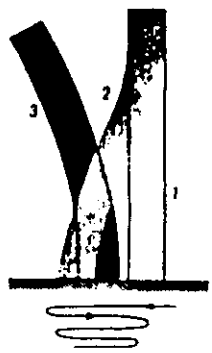
**Times staff writer Robert Schwartz in Orange County contributed to this story.**



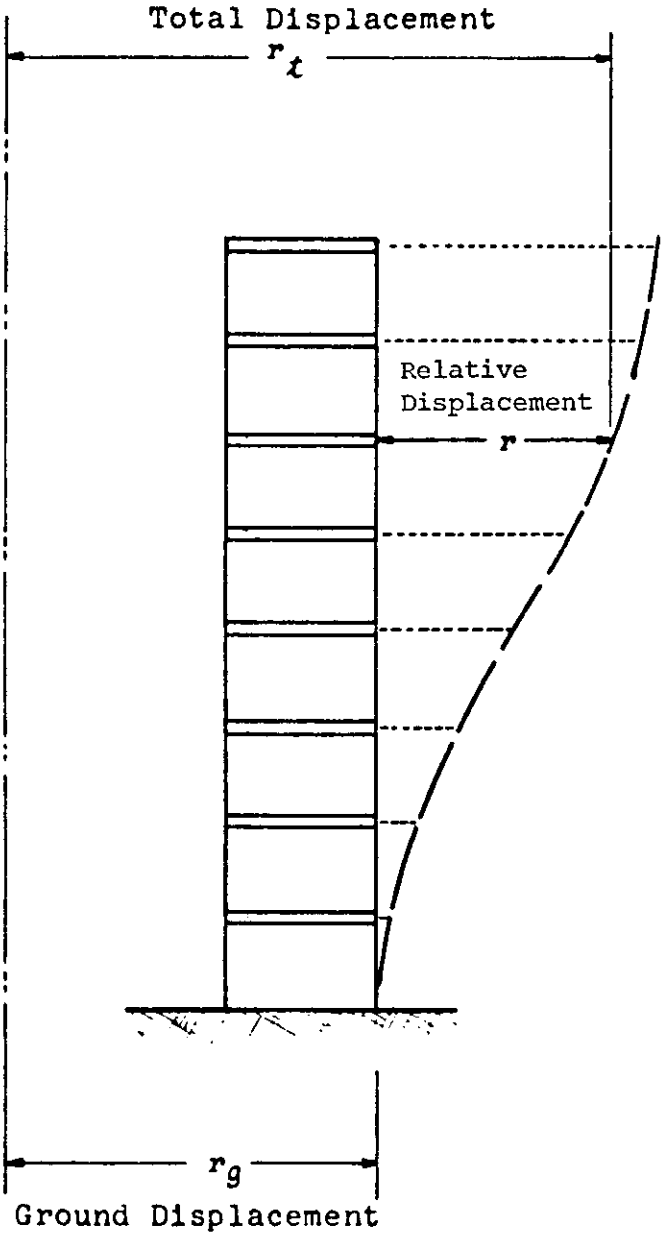

Envelope of Maximum
Longitudinal Displacements
(Taft Accelerogram, λ=0.10)



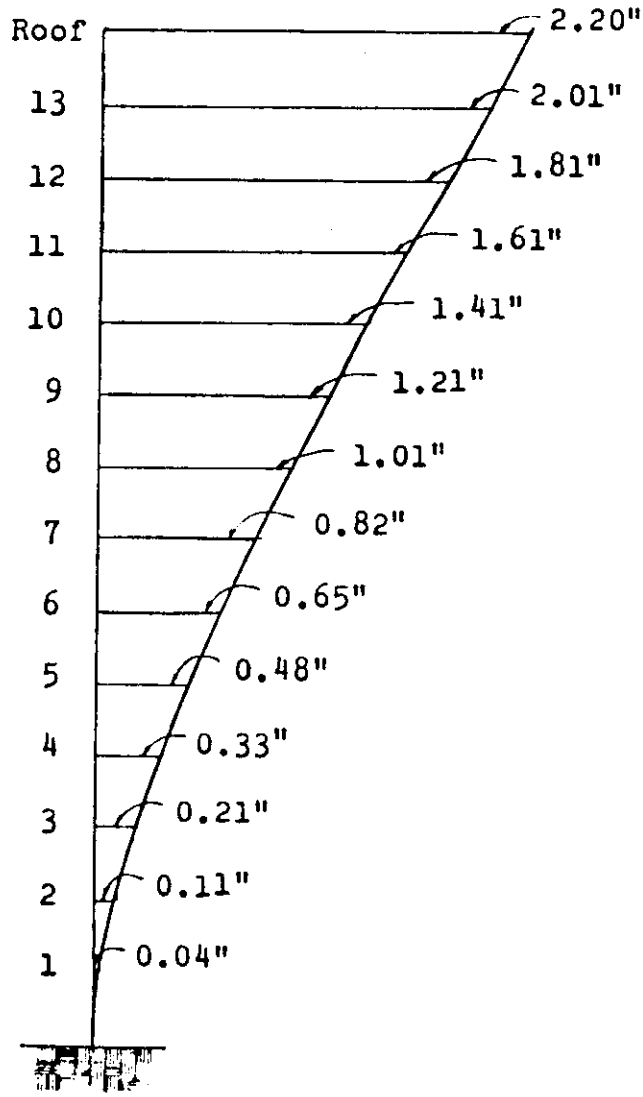

Envelope of Maximum
Transverse Displacements
(Taft Accelerogram, λ=0.10)



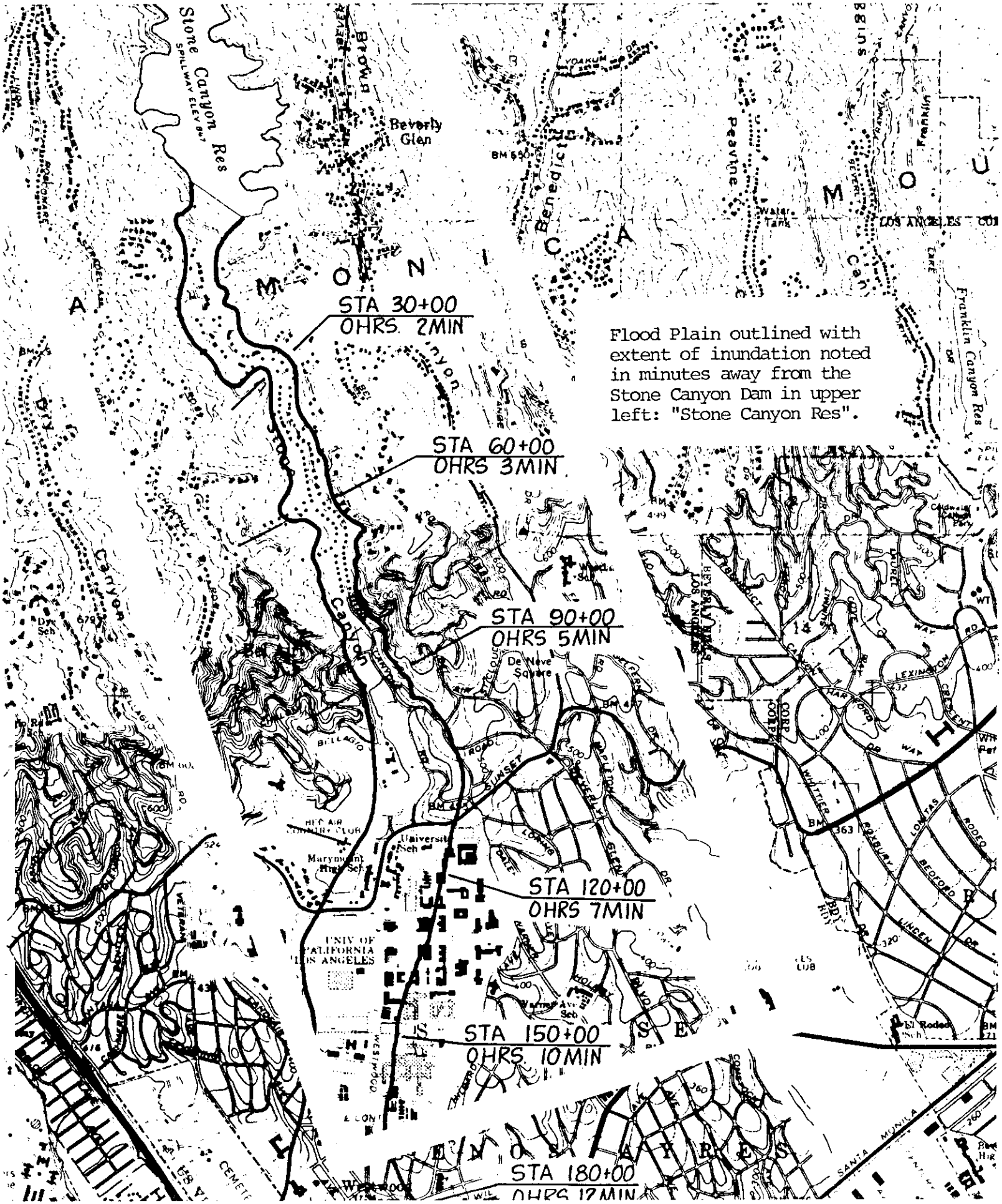

Earthquake motions.




Relative and Total
Displacement of the Building



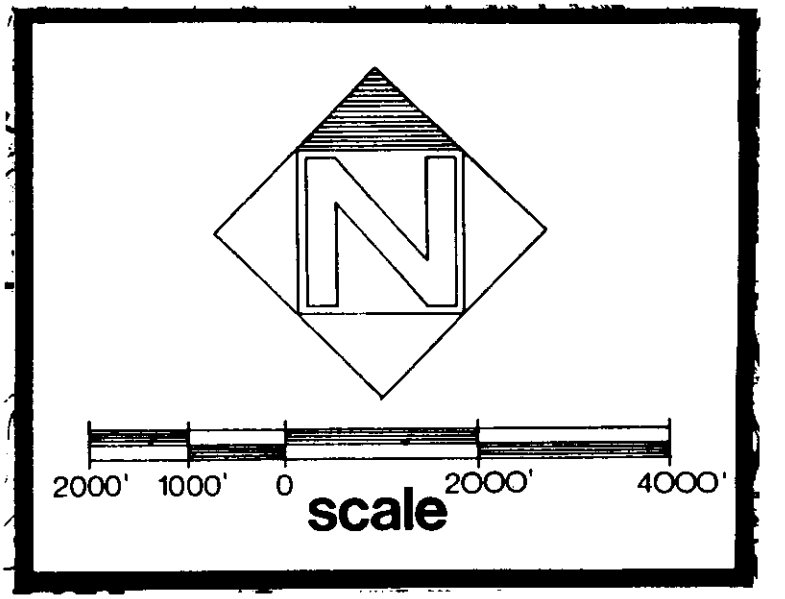

Envelope of Maximum Story Displacements in the Transverse Direction
(Taft Accelerogram, $\lambda$=0.10)


Stone Canyon Res
Beverly Glen
STA 30+00
0HRS 2MIN
STA 60+00
0HRS 3MIN
STA 90+00
0HRS 5MIN
STA 120+00
0HRS 7MIN
STA 150+00
0HRS 10MIN
STA 180+00
0HRS 12MIN
Flood Plain outlined with extent of inundation noted in minutes away from the Stone Canyon Dam in upper left: "Stone Canyon Res".

ENGINEERING ANALYSIS BY

CITY OF LOS ANGELES
DEPARTMENT OF WATER AND POWER
P.O.Box 111
Los Angeles, California
90051

SIGNATURE E. Lund
R.C.E. No. 8078




NOTE

THIS MAP WAS PREPARED IN COMPLIANCE WITH SECTION 8589.5 OF THE CALIFORNIA GOVERNMENT CODE WHICH REQUIRES OWNERS OF CERTAIN DAMS TO PREPARE MAPS DELINEATING THE POTENTIAL FLOOD ZONE THAT COULD RESULT IN THE EVENT OF A TOTAL FAILURE OF THE DAM. THE MAPS ARE CONSIDERED TO BE STRICTLY A CONTINGENCY MEASURE AND DO NOT IMPLY IN ANY WAY THAT THE DAM IS UNSAFE.

BECAUSE DETERMINATION OF INUNDATION AREAS AND FLOOD WAVE TRAVEL TIMES DEPENDS UPON EMPIRICAL ANALYSIS, PRECISE CALCULATIONS BEING BEYOND THE PRESENT STATE-OF-THE-ART, CONSERVATIVE ASSUMPTIONS WERE MADE WITHIN THE LIMITS OF GOOD ENGINEERING JUDGMENT. THE FLOW, THEREFORE, MAY NOT NECESSARILY COVER THE ENTIRE AREA WITHIN THE DESIGNATED BOUNDARY. IN ADDITION, FLOOD WAVE TRAVEL TIMES ARE APPROXIMATE AND SHOULD BE REGARDED AS SUCH.

USE OF THIS MAP FOR ANY PURPOSE OTHER THAN FOR EVACUATION PLANNING IS NOT RECOMMENDED.

# INUNDATION MAP
## of
# Stone Canyon Dam

LOS ANGELES COUNTY | Dwg.No. | Sht.No. 1 of 2

# GEOLOGIC MAP INDEX TO USGS 7.5' & 15' QUADRANGLES OF CALIFORNIA, 1985 - 1986

Supplement to Geologic Map Index to USGS 7.5' & 15' Quadrangles of California, 1883 - 1980 and 1981, 1982, and the 1983-1984 Supplements

by

**Joe Crotts**

University Library
California State University, Chico

This index covers the detailed geologic maps of California that are distributed among ten irrgularly issued map and monograph series published by the United States Geological Survey. Previous indexes to these maps are not organized around a common areal descriptor of sufficiently limited extent, which makes it difficult to determine coverage of specific areas. This index correlates U.S.G.S. geologic maps of California with 7.5' and 15' topographic quadrangles.

This index is a Supplement to Geologic Map Index to USGS 7.5' & 15' Quadrangles of California, 1883 - 1980 which appears in the:

WAML Information Bulletin 12(3) June 1981;
13(1) November 1981
13(2) March 1982
14(1) November 1982
15(2) March 1984
16(2) March 1985

The arrangement of the index is alphabetical by quadrangle name, with 7.5' quadrangles preceding identically named 15' quadrangles. Data elements provided for each quadrangle are: series name and number of each report containing a geologic map of that quadrangle or portion thereof; and, the extent of coverage of each geologic map of the quadrangle.

The ten series containing geologic maps of California covered in this index, with their title abbreviations, and the beginning date of each series are listed in the Legend. Also listed are abbreviations of areas and geographic directions used in the descriptions.

A continuing feature of this index is Scale, cited in thousands; e.g., in column noted SCALE, 125K = 1: 125,000.

## LEGEND

### United States Geological Survey Series

| | |
|---|---|
| B | Bulletin 1883- |
| GF | Geologic Folio 1894- |
| GP | Geophysical Investigations Map 1946- |
| GQ | Geologic Quadrangle Map 1949- |
| I | Miscellaneous Geologic Investigations Map 1955- |
| MF | Mineral Investigations Field Studies Map 1950- |
| OF | Open-File Report 1974- |
| OM | Oil and Gas Map 1943- |
| P | Professional Paper 1902- |
| W | Water-Supply Paper 1896- |

### Coverage Notations

| | | | |
|---|---|---|---|
| E | east, east of | R. | River |
| E. | East | S | south, south of |
| L. | Lake | SE | southeast |
| N | north, north of | SW | southwest |
| N. | North | T | township (U.S. Land Survey) |
| NE | northeast | V. | Valley |
| NW | northwest | W | west, west of |
| R | range (U.S. Land Survey) | W. | West |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Aberdeen 7.5 | P 110 | 125K | excl. SW1/8 (Sawmill Pass area) |
| Acorn Hollow 7.5 | I 1238 | 62K | complete |
| Acorn Hollow 7.5 | MF 1790 (sh.4) | 62K | complete |
| Ah Pah Ridge 7.5 | B 1546, pl.1 | 125K | primarily east of Klamath R. |
| Alameda Well 7.5 | OF 81-1155 | 62K | complete |
| Alameda Well 7.5 | P 438, pl.1 (sh.1) | 96K | excl. north of 38°06' |
| Allendale 7.5 | MF 1790 (sh.1) | 62K | complete |
| Alta Sierra 7.5 | B 1651 | 125K | primarily excl. west of 118°36' |
| Amboy 7.5 | MF 205 | 125K | complete |
| Anderson 15 | MF 1790 (sh.5) | 62K | complete |
| Anderson 15 | OF 84-105 | 100K | complete |
| Arbuckle 7.5 | MF 1790 (sh.2) | 62K | complete |
| Arbuckle Mtn. 7.5 | OF 84-105 | 100K | complete |
| Arlington Mine 7.5 | B 1710-A | 62K | south of 33°47'30" west of McCoy Mts. in SW 1/4 |
| Arvin 7.5 | B 1651 | 125K | primarily E 1/2 |
| Balls Ferry 7.5 | MF 1790 (sh.5) | 62K | complete |
| Balls Ferry 7.5 | OF 84-105 | 100K | complete |
| Bannock 7.5 | MF 1709 | 24K | NW 1/16 |
| Barkley Mtn. 7.5 | MF 1340-A | 62K | primarily Mill Crk. V. east of Black Rock in N 1/2 |
| Bartlett Springs NE 7.5 | OF 85-285 | 24K | primarily E 1/2 |
| Bartlett Springs SE 7.5 | OF 85-285 | 24K | complete |
| Bear Mtn. 7.5 | B 1651 | 125K | primarily excl. SE 1/4 incl. Sycamore Canyon area |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Bella Vista 7.5 | MF 1790 (sh.5) | 62K | complete |
| Bena 7.5 | OF 86-188 | 24K | complete |
| Bena 7.5 | B 1651 | 125K | primarily excl. NW 1/4 |
| Bend 7.5 | MF 1790 (sh.5) | 62K | complete |
| Bend 7.5 | OF 84-105 | 100K | complete |
| Ben Hur 7.5 | GQ 1586 | 62K | complete |
| Big Bar 7.5 | MF 1809 | 62K | complete |
| Biggs 7.5 | MF 1790 (sh.3) | 62K | complete |
| Bighorn Basin 7.5 | MF 205 | 125K | complete |
| Billys Peak 7.5 | MF 1600-A,B | 48K | excl. T38N R9W 23<br>T39N R9W 11-14 |
| Big Maria Mts. 15 | OF 84-407 | 48K | complete |
| Big Maria Mts. NE 7.5 | OF 84-407 | 48K | complete |
| Big Maria Mts. NW 7.5 | OF 84-407 | 48K | complete |
| Big Maria Mts. SE 7.5 | OF 84-407 | 48K | complete |
| Big Maria Mts. SW 7.5 | OF 84-407 | 48K | complete |
| Bird Valley 7.5 | MF 1790 (sh.2) | 62K | complete |
| Bishop 7.5 | P 110 | 125K | complete |
| Bishop 7.5 | P 438, pl.1 (sh.2) | 96K | complete |
| Bishop 7.5 | P 438, pl.2 | 96K | complete |
| Bishop 7.5 | P 470 | 62K | complete |
| Bishop 7.5 | MF 1426-A | 62K | south of 37°21' |
| Black Butte Dam 7.5 | MF 1790 (sh.4) | 62K | complete |
| Black Hills 7.5 | P 457 | 24K | north 35°25'<br>west of 117°20'40" |
| Blanco Mtn. 7.5 | GQ 529 | 62K | complete |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Blanco Mtn. 7.5 | I 506 | 125K | complete |
| Blanco Mtn. 7.5 | MF 1361-A | 62K | complete |
| Blanco Mtn. 7.5 | P 110 | 125K | complete |
| Blanco Mtn. 7.5 | MF 256 | 62K | complete |
| Blanco Mtn. 7.5 | P 438, pl.1 (sh.2) | 96K | complete |
| Blossom 7.5 | MF 1790 (sh.4) | 62K | complete |
| Blossom 7.5 | OF 84-105 | 100K | complete |
| Blue Creek Mtn. 7.5 | B 1546, pl.1 | 125K | complete |
| Blythe NE 7.5 | OF 84-407 | 48K | north of 33°40' |
| Bole Spring 7.5 | B 1181-L | 62K | complete |
| Bollibakka 7.5 | GF 138 | 125K | complete |
| Bray 7.5 | W 1491 | 62K | complete |
| Breckenridge Mtn. 7.5 | B 1651 | 125K | excl. T28S R31E 15,22, 27, 34 in NW 1/4 |
| Bridgeport 15 | MF 1135-B | 62K | California area east of Bridgeport Res. and west of East Walker R. |
| Bridgeport 15 | MF 1535-B | 62K | California area north of Bridgeport Res. and west of East Walker R. |
| Broadwell Lake 7.5 | I 478 | 62K | complete |
| Broadwell Lake 7.5 | MF 205 | 125K | complete |
| Broadwell Mesa 7.5 | I 478 | 62K | complete |
| Broadwell Mesa | MF 205 | 125K | complete |
| Broken Rib Mtn. 7.5 | B 1546, pl.5 | 62K | west of 123°47' |
| Brooks 7.5 | MF 1790 (sh.1) | 62K | complete |
| Brown Buttes 7.5 | MF 205 | 125K | complete |
| Browns Valley 7.5 | MF 1790 (sh.2) | 62K | complete |
| Bruceville 7.5 | MF 1790 (sh.1) | 62K | complete |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Budweiser Wash 7.5 | MF 205 | 125K | complete |
| Butte City 7.5 | MF 1790 (sh.3) | 62K | complete |
| Butte city 15 | MF 1790 (sh.3) | 62K | complete |
| Cadiz 7.5 | MF 205 | 125K | excl. primarily Marble Mts. in NE 1/4 |
| Cadiz Lake NE 7.5 | MF 205 | 125K | south of RR in SW 1/4 |
| Cadiz Lake NW 7.5 | MF 205 | 125K | south of Atchison-Topeka-Santa Fe RR (excl. primarily NE 1/4) |
| California Hot Springs 15 | B 1651 | 125K | primarily east of 118°35' |
| Calumet Mine 7.5 | MF 205 | 125K | complete |
| Calumet Mine 7.5 | MF 1615-A | 62K | complete |
| Calumet Mts. 7.5 | MF 205 | 125K | complete |
| Camp Far West 7.5 | MF 1790 (sh.2) | 62K | complete |
| Camp Nelson 15 | MF 1651-A | 48K | T19S R30E 25<br>T19S R31E 27-34<br>T20S R30E 1,10-16, 21-23, 27-28<br>T20S R31E 3-10, 15-17 in N 1/2 |
| Campbell Mound 7.5 | MF 1790 (sh.4) | 62K | complete |
| Cant Hook Mtn. 7.5 | B 1546, pl.1 | 125K | excl. primarily SW 1/8 and south of 41°41' east of 123°55' in SE 1/4 |
| Carmichael 7.5 | MF 1790 (sh.1) | 62K | complete |
| Cedar Hill 7.5 | OF 81-1155 | 62K | complete |
| Chalfant Valley 7.5 | GQ 1012 | 62K | complete |
| Chalfant Valley 7.5 | P 438, pl.1 (sh.1) | 96K | complete |
| Chalfant Valley 7.5 | P 438, pl.2 | 96K | complete |
| Chalfant Valley 7.5 | P 800-B, p197 | 120K | north of 37°35' |
| Chanchelulla Peak 7.5 | OF 84-105 | 100K | complete |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Chanchelulla Peak 15 | OF 84-105 | 100K | complete |
| Cherokee 7.5 | MF 1790 (sh.3) | 62K | complete |
| Chico 7.5 | MF 1790 (sh.3) | 62K | complete |
| Chico 15 | MF 1790 (sh.3) | 62K | complete |
| Childs Hill 7.5 | B 1546, pl.1 | 125K | NE 1/8 |
| Chris Flat 7.5 | MF 1535-B | 62K | primarily E 1/3 |
| Cirque Peak 7.5 | MF 1231-A | 62K | excl. north of Curque Pk. and Golden Trout Camp |
| Cirque Peak 7.5 | P 110 | 125K | excl. primarily SW 1/4 |
| Cirque Peak 7.5 | P 438, pl.1 (sh.3) | 125K | primarily Inyo Co. (NE 1/2) |
| Citrus Hts. 7.5 | MF 1790 (sh.1) | 62K | complete |
| Clarks Pass 7.5 | MF 205 | 125K | complete |
| Clarks Pass 7.5 | MF 1185-A | 125K | south of Twentynine Palms Hwy. excl. Joshua Tree NW south of Outlaw Mine |
| Clarks Pass 7.5 | MF 1615-A | 62K | excl. south of Twentynine Palms Hwy. |
| Clarksburg 7.5 | MF 1790 (sh.1) | 62K | complete |
| Clayton 7.5 | OF 84-553 | 24K | T1N R1E 13-15,22-27,34-36 (area south of Clayton, incl. Eagle Pk., Bald Ridge, Long Ridge, Mitchell Canyon, Mt. Zion) |
| Clearlake Oaks 15 | OF 85-285 | 24K | primarily E 1/2 |
| Clough Gulch 7.5 | GF 138 | 125K | complete |
| Clough Gulch 7.5 | MF 1790 (sh.5) | 62K | complete |
| Cold Fork 7.5 | MF 1790 (sh.4) | 62K | complete |
| Cold Fork 7.5 | OF 84-105 | 100K | complete |
| Colusa 7.5 | MF 1790 (sh.2) | 62K | complete |
| Colusa 15 | MF 1790 (sh.2) | 62K | complete |
| Colyear Springs 15 | MF 1790 (sh.4) | 62K | complete |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Colyear Springs 15 | OF 84-105 | 100K | complete |
| Corning 7.5 | MF 1790 (sh.4) | 62K | complete |
| Corning 15 | MF 1790 (sh.4) | 62K | complete |
| Cortina Creek 7.5 | MF 1790 (sh.2) | 62K | complete |
| Coso Junction 7.5 | B 1708-B | 62K | SW 1/8 |
| Cottonwood 7.5 | MF 1790 (sh.5) | 62K | complete |
| Cottonwood 7.5 | OF 84-105 | 100K | complete |
| Courtland 7.5 | MF 1790 (sh.1) | 62K | complete |
| Courtland 15 | MF 1790 (sh.1) | 62K | complete |
| Cowtrack Mtn. 7.5 | P 438, pl.1 (sh.1) | 96K | complete |
| Coyote Lake 7.5 | B 1529-E (pl.2) | 125K | complete |
| Coyote Lake 7.5 | MF 1460-F | 62K | complete |
| Dak Run 7.5 | MF 1790 (sh.5) | 62K | complete |
| Dale Lake 7.5 | MF 205 | 125K | complete |
| Dale Lake 7.5 | MF 1615-A | 62K | complete |
| Dales 7.5 | MF 1790 (sh.5) | 62K | complete |
| Dales 7.5 | OF 84-105 | 100K | complete |
| Danby Lake 7.5 | MF 1736 | 62K | complete |
| Davis 7.5 | MF 1790 (sh.1) | 62K | complete |
| Davis 15 | MF 1790 (sh.1) | 62K | complete |
| Deadman Peak 7.5 | MF 1600-A | 48K | primarily excl. north of E. Fork of S. Fork, Salmon R. in N 1/2 (north of 41°13') |
| Dedrick 7.5 | MF 1810-B | 24K | east of 123°05' |
| Desert Creek Peak 15 | MF 1535-B | 62K | California area east of 119°23'30" (Wild Horse Mtn.) |
| Devils Parade Ground 7.5 | MF 1340-A | 62K | area of Devils Parade Ground, Devils Kitchen Polk Springs |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Devils Punch Bowl 7.5 | B 1546, pl.5 | 62K | west of 123°47' |
| Devils Rock 7.5 | GF 138 | 125K | complete |
| Devils Rock 7.5 | P 338/pl.1 | 24K | T34N R2W 8,16-17, 20-22, 27-29, 32-35 in SW 1/2 |
| Dewitt Peak 7.5 | MF 1790 (sh.4) | 62K | complete |
| Dewitt Peak 7.5 | I 1238 | 62K | SW 1/2 |
| Dixon 7.5 | MF 1790 (sh.1) | 62K | complete |
| Dorris 7.5 | W 1491 | 62K | complete |
| Downieville 7.5 | MF 1613-A,B | 48K | T20N R10E 1-5,8-17,21-27<br>T20N R11E 4-9, 16-21<br>in N 1/2 |
| Dozier 7.5 | MF 1790 (sh.1) | 62K | complete |
| Dubakella Mtn. 7.5 | MF 1808 | 62K | complete |
| Dubakella Mtn. 15 | MF 1808 | 62K | complete |
| Dunderberg Peak 7.5 | MF 1101-A | 62K | Mono Co. |
| Dunderberg Peak 7.5 | MF 1453-A | 62K | south of Lundy Canyon in SE 1/8 |
| Dunnigan 7.5 | MF 1790 (sh.2) | 62K | complete |
| Dunnigan 15 | MF 1790 (sh.2) | 62K | complete |
| East of Broadwell Lake 7.5 | I 478 | 62K | complete |
| East of Broadwell Lake 7.5 | MF 205 | 125K | complete |
| East of Dale Lake 7.5 | MF 205 | 125K | complete |
| East of Goldstone 7.5 | W 1460-F | 62K | W 1/2 |
| East of Granite Pass 7.5 | MF 1736 | 62K | complete |
| East of Homer Mtn. 7.5 | MF 1709 | 24K | SW 1/16 |
| East of Langford Well 7.5 | B 1089-A | 62K | complete |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| East of Langford Well 7.5 | W 1460-F | 62K | west of 116°33' |
| East of Siberia 7.5 | MF 205 | 125K | complete |
| East of Valley Mtn. 7.5 | MF 205 | 125K | complete |
| Edison 7.5 | B 1651 | 125K | SE 1/8 |
| Eldorado Bend 7.5 | MF 1790 (sh.2) | 62K | complete |
| Elk Grove 7.5 | MF 1790 (sh.1) | 62K | complete |
| Elmira 7.5 | MF 1790 (sh.1) | 62K | complete |
| Enterprise 7.5 | MF 1790 (sh.5) | 62K | complete |
| Esparto 7.5 | MF 1790 (sh.1) | 62K | complete |
| Fair Oaks 15 | MF 1790 (sh.1) | 62K | complete |
| Fales Hot Springs 7.5 | MF 1535-B | 62K | NE 1/8, incl. Burcham Flat and Little Long V. excl. all but north Wheeler Flat |
| Fales Hot Springs 15 | MF 1535-B | 62K | excl. primarily west of Hwy. 395<br>incl. Little Long Valley and Sario, Patterson, Yaney Canyons and By-Day Log Cabin Creeks in SE 1/4 |
| Finley Butte 7.5 | MF 1790 (sh.5) | 62K | complete |
| Finley Butte 7.5 | MF 1340-A | 62K | T28N R1E 13-14,21-28<br>T28N R2E 18-19,29-30 |
| Fish Lake 7.5 | B 1546, pl.1 | 125K | north of 41 17' |
| Florin 7.5 | MF 1790 (sh.1) | 62K | complete |
| Flournoy 7.5 | MF 1790 (sh.4) | 62K | complete |
| Flournoy 15 | MF 1790 (sh.4) | 62K | complete |
| Ford Dry Lake 7.5 | B 1710-A | 62K | N 1/2 |
| Fort Irwin 7.5 | W 1460-F | 62K | complete |
| Foster Island 7.5 | MF 1790 (sh.4) | 62K | complete |
| Freeman Junction 7.5 | B 1708-C | 24K | south of 35°33'30"<br>east of 117°55' |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| French Gulch 7.5 | MF 1790 (sh.5) | 62K | complete |
| French Gulch 15 | MF 1790 (sh.5) | 62K | complete |
| Fruto 7.5 | MF 1790 (sh.3) | 62K | complete |
| Fruto 15 | MF 1790 (sh.3) | 62K | complete |
| Fruto NE 7.5 | MF 1790 (sh.3) | 62K | complete |
| Funeral Peak 7.5 | P 413 | 62K | complete |
| Galt 7.5 | MF 1790 (sh.1) | 62K | complete |
| Garlock 7.5 | B 1708-C | 24K | north of 35°27' west of 117°47' |
| Gasquet 7.5 | B 1546, pl.1 | 125K | complete |
| Gasquet 7.5 | B 1546, pl.5 | 62K | complete |
| Gasquet 7.5 | OF 85-148 | 24K | T16N R2E 9,16-17,20-23, 26-28 in S 1/2 |
| Gasquet 15 | B 1546, pl.1 | 125K | complete |
| Gasquet 15 | B 1546, pl.5 | 62K | complete |
| Gerber 7.5 | MF 1790 (sh.4) | 62K | complete |
| Gerber 7.5 | OF 84-105 | 100K | complete |
| Gilsizer Slough 7.5 | MF 1790 (sh.2) | 62K | complete |
| Glenn 7.5 | MF 1790 (sh.3) | 62K | complete |
| Goffs 7.5 | MF 1709 | 24K | T10N R18E 1(37)-2<br>T11N R18E 27-33<br>in N 1/2 |
| Gold Lake 7.5 | MF 1613-A,B | 48K | SW 1/4 |
| Gold Valley 7.5 | P 413 | 62K | complete |
| Goldstone 7.5 | W 1460-F | 62K | complete |
| Goose Gap 7.5 | GF 138 | 125K | complete |
| Granite Pass 7.5 | MF 1736 | 62K | complete |
| Granite Res. 7.5 | MF 205 | 125K | complete |
| Grays Bend 7.5 | MF 1790 (sh.1) | 62K | complete |
| Gridley 7.5 | MF 1790 (sh.3) | 62K | complete |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Gridley 15 | MF 1790 (sh.3) | 62K | complete |
| Grimes 7.5 | MF 1790 (sh.2) | 62K | complete |
| Guinda 7.5 | MF 1790 (sh.2) | 62K | complete |
| Guinda 15 | MF 1790 (sh.2) | 62K | complete |
| Hagaman Gulch 7.5 | GQ 993 | 62K | complete |
| Hagaman Gulch 7.5 | MF 1790 (sh.5) | 62K | complete |
| Halfway Ridge 7.5 | MF 1809 | 62K | complete |
| Hall Ridge 7.5 | MF 1790 (sh.4) | 62K | complete |
| Hamilton City 7.5 | MF 1790 (sh.3) | 62K | complete |
| Hamlin Canyon 7.5 | MF 1790 (sh.3) | 62K | complete |
| Hanland Peak 7.5 | GF 138 | 125K | complete |
| Henleyville 7.5 | MF 1790 (sh.4) | 62K | complete |
| Hetch Hetchey Res. 15 | I 1639 | 24K | south of 37°47'05" east of 119°37'30" in SE 1/4, primarily south of Mt. Watkins, and east of Boundary Hill |
| High Divide 7.5 | B 1546, pl.5 | 62K | complete |
| High Divide 7.5 | B 1546, pl.1 | 125K | primarily E 1/2 |
| High Plateau Mtn. 7.5 | B 1546, pl.1 | 125K | complete |
| High Plateau Mtn. 7.5 | B 1546, pl.5 | 62K | complete |
| High Plateau Mtn. 7.5 | B 1546, pl.3 | 16K | High Plateau Mtn. area north of Peridotite Mtn in central section |
| Hiouchi 7.5 | B 1546, pl.5 | 62K | complete |
| Hiouchi 7.5 | B 1546, pl.1 | 125K | primarily E 1/2 |
| Homer 7.5 | MF 1709 | 24K | primarily north of 34°30" east of 114°57'30" excl. T10N R19E 1-2,11-12 |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Homer Mtn. 7.5 | MF 1709 | 24K | south of 35°03' excl. T11N R18E 25 in SW 1/16 |
| Honcut 7.5 | MF 1790 (sh.3) | 62K | complete |
| Hooker 7.5 | MF 1790 (sh.5) | 62K | complete |
| Hooker 7.5 | OF 84-105 | 100K | complete |
| Horsecamp Mtn. 7.5 | GQ 1586 | 62K | complete |
| Humbug Mtn. 7.5 | MF 205 | 125K | north of 34°02' |
| Huntoon Spring 7.5 | OF 81-0274 | 62K | complete |
| Hurdygurdy Butte 7.5 | B 1546, pl.1 | 125K | complete |
| Hurdygurdy Butte 7.5 | B 1546, pl.5 | 62K | complete |
| Hyampom 7.5 | MF 1809 | 62K | complete |
| Hyampom 15 | MF 1809 | 62K | complete |
| Hyampom Mtn. 7.5 | MF 1809 | 62K | complete |
| Igo 7.5 | MF 1790 (sh.5) | 62K | complete |
| Inca 7.5 | OF 84-407 | 48K | east of 114°50' |
| Indian Meadows 7.5 | P 438, pl.1 (sh.1) | 96K | complete |
| Inskip 7.5 | MF 1790 (sh.5) | 62K | complete |
| Inskip Hill 7.5 | MF 1298 | 62K | complete |
| Inwood 7.5 | GQ 993 | 62K | complete |
| Inwood 7.5 | MF 1790 (sh.5) | 62K | complete |
| Inyokern SE 7.5 | B 1708-C | 24K | south of 33°30' west of 117°47' |
| Iron Mts. 7.5 | MF 205 | 125K | complete |
| Iron Mts. 7.5 | MF 1736 | 62K | complete |
| Iron Mts. 15 | MF 1736 | 62K | complete |
| Ishi Caves 7.5 | MF 1790 (sh.4) | 62K | complete |
| Ishi Caves 7.5 | I 1238 | 62K | SW 1/2 |
| Jacks Backbone 7.5 | GQ 248 | 62K | complete |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Johnsons 7.5 | B 1546, pl.1 | 125K | primarily NE 1/2 |
| Julian Rocks 7.5 | MF 1790 (sh.3) | 62K | complete |
| Junction City 7.5 | MF 1810-B | 24K | north of 40°42'30" east of 123°05' |
| Kaweah 15 | MF 1651-A | 48K | Dennison Peak area and T18S R30E 35-36 T19S R30E 1-2,11-12 |
| Kearsarge Peak 7.5 | B 1130 | 125K | complete |
| Kearsarge Peak 7.5 | MF 1185-A | 125K | W 1/2 |
| Kearsarge Peak 7.5 | P 110 | 125K | excl. Mt. Baxter area in NW 1/8 |
| Kearsarge Peak 7.5 | P 438, pl.1 (sh.3) | 125K | excl. Fresno Co. |
| Keene 7.5 | B 1651 | 125K | T31S R31E 11-14,23-24 T31S R32E 7-8, 18 in NW 1/4 |
| Kern Peak 15 | GQ 1584 | 62K | complete |
| Kernville 15 | B 1651 | 125K | primarily excl. east of 118°18' |
| Kirkville 7.5 | MF 1790 (sh.2) | 62K | complete |
| Kirkwood 7.5 | MF 1790 (sh.4) | 62K | complete |
| Kirkwood Spring 7.5 | OF 81-1155 | 62K | complete |
| Klamath Glen 7.5 | B 1546, pl.1 | 125K | primarily south of 41°35' east of 123°57' also incl. Rattlesnake Mtn. in N 1/2 |
| Knights Landing 7.5 | MF 1790 (sh.2) | 62K | complete |
| Knights Landing 15 | MF 1790 (sh.2) | 62K | complete |
| Knob Hill 7.5 | OF 86-188 | 24K | complete |
| Lake Berryessa 7.5 | MF 1790 (sh.1) | 62K | complete |
| Lake Berryessa 15 | MF 1790 (sh.1) | 62K | complete |
| Lake Isabella North 7.5 | B 1651 | 125K | complete |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Lake Isabella South 7.5 | B 1651 | 125K | complete |
| La Porte 7.5 | MF 1613-A,B | 48K | T21N R10E 5-8, 17-20, 29-30,32 |
| Landford Well 7.5 | W 1460-F | 62K | complete |
| Last Chance Range 7.5 | MF 1770 | 62K | primarily E 1/2 |
| Last Chance Range 15 | OF 85-512 | 12K | north 37°10' west of 117°38' in NW 1/4 |
| Laws 7.5 | MF 1361-A | 62K | complete |
| Laws 7.5 | P 110 | 125K | complete |
| Laws 7.5 | P 438, pl.1 (sh.2) | 96K | complete |
| Laws 7.5 | P 438, pl.2 | 96K | complete |
| Laws 7.5 | P 470 | 62K | complete |
| Lee Vining 7.5 | GQ 462 | 62K | complete |
| Lee Vining 7.5 | MF 1453-A | 62K | T1N R26E 21,28,33 primarily Williams Butte |
| Liberty Island 7.5 | MF 1790 (sh.1) | 62K | complete |
| Lincoln 7.5 | MF 1790 (sh.2) | 62K | complete |
| Lincoln 15 | MF 1790 (sh.2) | 62K | complete |
| Little Lake 7.5 | B 1708-B | 62K | west of Rose V. + Indian Wells V. |
| Little Picacho Peak 7.5 | B 1599/p.4-5 | 100K | north of 32°58'40" |
| Little Picacho Peak 7.5 | B 1599/p7 | 33K | primarily T13S R22E 36 in NW 1/8 |
| Llano Seco 7.5 | MF 1790 (sh.3) | 62K | complete |
| Lodoga 15 | MF 1790 (sh.3) | 62K | complete |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Logan Ridge 7.5 | MF 1790 (sh.3) | 62K | complete |
| Logandale 7.5 | MF 1790 (sh.3) | 62K | complete |
| Lonesome Ridge 7.5 | B 1546, pl.1 | 125K | primarily SW 1/2 |
| Long Canyon 7.5 | B 1708-B | 62K | south of Tunawee Canyon, incl. Portuguese Canyon in SE 1/4 |
| Los Molinos 7.5 | MF 1790 (sh.4) | 62K | complete |
| Los Molinos 7.5 | OF 84-105 | 100K | complete |
| Lower Klamath Lake 7.5 | W 1491 | 62K | excl. east of 121°38'30" |
| Lowrey 7.5 | MF 1790 (sh.4) | 62K | complete |
| Lowrey 7.5 | OF 84-105 | 100K | complete |
| Lundy 7.5 | MF 1101-A | 62K | T2N R25E 4-5,8-9,16-17, 20-21,28-29<br>T3N R25E 20,29,32 in W 1/2 |
| Lundy 7.5 | MF 1453-A | 62K | south of Lundy L., Lundy Canyon, Dechambeau Crk. in S 1/2 |
| Lundy 7.5 | P 438, pl.1 (sh.1) | 125K | excl. west of Lundy L. north of 38°06' |
| Macdoel 7.5 | W 1491 | 62K | complete |
| Madison 7.5 | MF 1790 (sh.1) | 62K | complete |
| Magruder Mtn. 15 | GQ 1587 | 62K | complete |
| Magruder Mtn. 15 | MF 1770 | 62K | area of Death Valley and Last Chance Canyon northward to Cucomongo Canyon |
| Manton 7.5 | MF 1298 | 62K | complete |
| Manton 7.5 | MF 1790 (sh.5) | 62K | complete |
| Manton 15 | MF 1790 (sh.5) | 62K | complete |
| Manzanita Lake 7.5 | GQ 248 | 62K | complete |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Marion Peak 7.5 | GQ 1399 | 62K | complete |
| Mariposa 7.5 | GQ 1586 | 62K | complete |
| Mariposa 15 | GQ 1586 | 62K | complete |
| Marysville 15 | MF 1790 (sh.2) | 62K | complete |
| Maxwell 7.5 | MF 1790 (sh.3) | 62K | complete |
| Maxwell 15 | MF 1790 (sh.3) | 62K | complete |
| McCoy Peak 7.5 | OF 84-407 | 48K | north of 33°40'<br>east of 114°50' |
| McCoy Spring 7.5 | B 1710-A | 62K | primarily NW 1/4, north of Chuckwalla V., east of McCoy Mts. |
| McCoy Wash 7.5 | OF 84-407 | 48K | north of 33°40' |
| Merced Peak 15 | I 1639 | 24K | north 37°42'<br>west of 119°29'10"<br>in NW 1/4 in area of Moraine Dome, Yosemite V. Starr King Mdw. |
| Meridian 7.5 | MF 1790 (sh.2) | 62K | complete |
| Merrit 7.5 | MF 1790 (sh.1) | 62K | complete |
| Miller Mtn. 7.5 | GQ 993 | 62K | complete |
| Miller Mountain 7.5 | MF 1790 (sh.5) | 62K | complete |
| Milligan 7.5 | MF 205 | 125K | south of Atchison-Topeka-Santa Fe RR in S 1/2 |
| Millville 15 | MF 1790 (sh.5) | 62K | complete |
| Mineral King 15 | MF 1651-A | 48K | Sequoia NF, east of 118°40' in SW 1/4<br>also south of Maggie Mtn. |
| Minnesota Mtn. 7.5 | GF 138 | 125K | complete |
| Minnesota Mtn. 7.5 | P 338/pl.1 | 24K | S 1/2 |
| Miracle Hot Springs 7.5 | B 1651 | 125K | complete |
| Mitchell Gulch 7.5 | MF 1790 (sh.5) | 62K | complete |
| Mitchell Gulch 7.5 | OF 84-105 | 100K | complete |

| QUADRANGLEF | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Monache Mtn. 7.5 | B 1708-B | 62K | south of Tunawee Canyon, incl. Portuguese Canyon, in SE 1/8 |
| Mono Hills 7.5 | P 438, pl.1 (sh.1) | 125K | complete |
| Monticello 7.5 | MF 1790 (sh.1) | 62K | complete |
| Moulton Weir 7.5 | MF 1790 (sh.3) | 62K | complete |
| Mt. Barcroft 7.5 | GQ 960 | 62K | complete |
| Mt. Barcroft 7.5 | MF 1361-A | 62K | complete |
| Mt. Barcroft 7.5 | P 438, pl.1 (sh.1) | 96K | west of 118°10' |
| Mt. Brewer 7.5 | GQ 1545 | 62K | complete |
| Mt. Clarence King 7.5 | B 1130 | 62K | complete |
| Mt. Clarence King 7.5 | MF 1185-A | 125K | Inyo Co (Diamond Pk., Mt. Gould area) |
| Mt. Clarence King 7.5 | P 110 | 125K | SW 1/4 (south of Mt. Clarence King and Diamond Pk.) |
| Mt. Clarence King 7.5 | P 438, pl.1 (sh.3) | 125K | Inyo Co. (Diamond Pk., Mt. Gould area) |
| Mt. Dana 7.5 | GQ 462 | 62K | complete |
| Mt. Dana 7.5 | B 1516-A-D (pl.1) | 62K | primarily SW 1/4 excl. Tuolomne Co. |
| Mt. Dana 7.5 | MF 1453-A | 62K | excl. T1N R26E 5-8, 17 in NE 1/4 |
| Mt. Dana 7.5 | P 438, pl.1 (sh.1) | 125K | W 1/2 |
| Mt. Dome 7.5 | W 1491 | 62K | excl. east of 121°38'30" |
| Mt. Eddy 7.5 | MF 1529-C | 62K | primarily SW 1/2 |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Mt. Filmore 7.5 | MF 1613-A,B | 48K | excl. primarily north of 43°30' |
| Mt. Kaweah 7.5 | GQ 1545 | 62K | complete |
| Mt. Pinchot 7.5 | P 110 | 125K | excl. NE 1/4 |
| Mt. Whitney 7.5 | GQ 1545 | 62K | complete |
| Mt. Whitney 7.5 | MF 1185-A | 125K | John Muir Wilderness (primarily NE 1/4) |
| Mt. Whitney 7.5 | P 110 | 125K | Inyo Co. primarily in NE 1/4 |
| Mt. Whitney 7.5 | P 438, pl.1 (sh.3) | 125K | primarily E 1/2 |
| Mt. Williamson 7.5 | GQ 1545 | 62K | complete |
| Mt. Williamson 7.5 | MF 1185-A | 125K | John Muir Wilderness excl. Tulare Co. |
| Mt. Williamson 7.5 | P 110 | 115K | excl. Kings Canyon NP in NW 1/4 |
| Mt. Williamson 7.5 | P 438, pl.1 (sh.3) | 125K | excl. primarily W 1/3 |
| Mumbo Basin 7.5 | MF 1529-C | 62K | Siskiyou Co. in NE 1/4 |
| Negit Island 7.5 | P 438, pl.1 (sh.1) | 125K | excl. north of 38°06' |
| Nelson 7.5 | MF 1790 (sh.3) | 62K | complete |
| New Dale 7.5 | MF 1615-A | 62K | complete |
| New Dale 7.5 | MF 205 | 125K | north of 34°03' |
| Newville 7.5 | MF 1790 (sh.4) | 62K | complete |
| New York Butte 15 | B 1708-A | 62K | excl. primarily south of 36°35' Long John Canyon area west of New York Butte |
| New York Butte 15 | MF 1733-A | 62K | excl. primarily south of 36°35' |
| Nicholaus 7.5 | MF 1790 (sh.2) | 62K | complete |
| Ninemile Canyon 7.5 | B 1708-B | 62K | west of Indian Wells V. (117°53'30") |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Nord 7.5 | MF 1790 (sh.4) | 62K | complete |
| Oak Run 7.5 | GF 138 | 125K | complete |
| Oak Run 7.5 | P 338/pl.1 | 24K | T33N R2W 1-5,8-12, 14-17 in N 1/2 |
| Ogilby 15 | B 1599/p.4-5 | 100K | north 33°58'30" east of 114°46'40" in NE 1/4 |
| Oil Center 7.5 | OF 86-188 | 24K | |
| Oiler Peak 7.5 | B 1651 | 125K | excl. T30S R32E 1,11-14, 22-27, 33-36 T31S R32E 1-5, 8-12 in E 1/2 |
| Olancha 7.5 | MF 1734 | 62K | complete |
| Olancha 15 | MF 1734 | 62K | complete |
| Old Station 7.5 | GQ 345 | 62K | complete |
| Olinda 7.5 | MF 1790 (sh.5) | 62K | complete |
| Olinda 7.5 | OF 84-105 | 100K | complete |
| Olivehurst 7.5 | MF 1790 (sh.2) | 62K | complete |
| Onion Butte 7.5 | MF 1340-A | 62K | Mill Crk. V. in N 1/2 |
| Ono 15 | MF 1790 (sh.5) | 62K | complete |
| Ono 15 | OF 84-105 | 100K | complete |
| Ord Ferry 7.5 | MF 1790 (sh.3) | 62K | complete |
| Orland 7.5 | MF 1790 (sh.3) | 62K | complete |
| Oroville 7.5 | MF 1790 (sh.3) | 62K | complete |
| Owens Peak 7.5 | B 1708-B | 62K | north of 35°40' |
| Oxbow Bridge 7.5 | MF 1790 (sh.4) | 62K | complete |
| Oxbow Bridge 7.5 | OF 84-105 | 100K | complete |
| Palen Lake 7.5 | P 1710-A | 62K | SE 1/4, east of Chuckwalla V. |
| Palen Mts. 7.5 | B 1710-A | 62K | south of 33°50' |
| Palermo 7.5 | MF 1790 (sh.3) | 62K | complete |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Palo Cedro 7.5 | MF 1790 (sh.5) | 62K | complete |
| Panamint 7.5 | GQ 1532 | 62K | complete |
| Panther Spring 7.5 | MF 1790 (sh.4) | 62K | complete |
| Panther Spring 7.5 | MF 1340-A | 62K | primarily north of Kingley Cove |
| Panther Spring 15 | MF 1790 (sh.4) | 62K | complete |
| Paradise Ridge 7.5 | B 1529-E (pl.2) | 125K | complete |
| Paradise Ridge 7.5 | W 1460-F | 62K | excl. NE 1/4 |
| Paskenta 7.5 | MF 1790 (sh.4) | 62K | complete |
| Pennington 7.5 | MF 1790 (sh.3) | 62K | complete |
| Penoyer 7.5 | W 1491 | 62K | complete |
| Picacho 7.5 | B 1599/p.4-5 | 100K | complete |
| Picacho 7.5 | B 1599/p.7 | 33K | south of 33°00'55" west of 114°36'25" in SW 1/4 |
| Picacho Peak 7.5 | B 1599/p.4-5 | 100K | north of 32°58'40" |
| Picacho Peak 7.5 | B 1599/p.7 | 33K | north of 33°59'25" east of 114°40' |
| Picacho SW 7.5 | B 1599/p.4-5 | 100K | south of 33°05'30" |
| Picacho SW 7.5 | B 1599/p.7 | 33K | south of 33°00'55" east of 114°40' in SE 1/4 |
| Pine Mountain 7.5 | OF 86-188 | 24K | |
| Pinto Wells 7.5 | MF 205 | 125K | complete |
| Pinto Wells 7.5 | MF 1603-A | 62K | NE 1/2 |
| Pinto Wells 7.5 | W 1475-O | 62K | north of 33°55' |
| Piute Peak 7.5 | B 1651 | 125K | NW 1/2 |
| Placer Canyon 7.5 | W 1475-O | 62K | north of 33°55' (Eagle Mtn.) |
| Pleasant Grove 7.5 | MF 1790 (sh.2) | 62K | complete |
| Poleta Canyon 7.5 | MF 1361-A | 62K | complete |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Poleta Canyon 7.5 | P 110 | 125K | complete |
| Poleta Canyon 7.5 | P 438, pl.1 (sh.2) | 96K | complete |
| Poleta Canyon 7.5 | P 438, pl.2 | 96K | complete |
| Poleta Canyon 7.5 | P 470 | 62K | complete |
| Princeton 7.5 | MF 1790 (sh.3) | 62K | complete |
| Project City 7.5 | MF 1790 (sh.5) | 62K | complete |
| Quartz Peak 7.5 | B 1599/p4,5 | 100K | south of 33°05'30" east of 114°46'40" in SE 1/4 |
| Raglin Ridge 7.5 | MF 1790 (sh.4) | 62K | complete |
| Raglin Ridge 7.5 | OF 84-105 | 100K | complete |
| Red Bank 7.5 | MF 1790 (sh.4) | 62K | complete |
| Red Bank 7.5 | OF 84-105 | 100K | complete |
| Red Bank 15 | MF 1790 (sh.4) | 62K | complete |
| Red Bank 15 | OF 84-105 | 100K | complete |
| Red Bluff 15 | MF 1790 (sh.4) | 62K | complete |
| Red Bluff 15 | OF 84-105 | 100K | complete |
| Red Bluff East 7.5 | MF 1790 (sh.4) | 62K | complete |
| Red Bluff East 7.5 | OF 84-105 | 100K | complete |
| Red Bluff West 7.5 | MF 1790 (sh.4) | 62K | complete |
| Red Bluff West 7.5 | OF 84-105 | 100K | complete |
| Redding 7.5 | MF 1790 (sh.5) | 62K | complete |
| Red Rock Lakes 7.5 | W 1491 | 62K | complete |
| Richardson Springs 7.5 | MF 1790 (sh.4) | 62K | complete |
| Richardson Springs 15 | MF 1790 (sh.4) | 62K | complete |
| Richardson Springs NW 7.5 | MF 1790 (sh.4) | 62K | complete |
| Riley Ridge 7.5 | MF 1790 (sh.4) | 62K | complete |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Rio Linda 7.5 | MF 1790 (sh.1) | 62K | complete |
| River Spring 7.5 | P 438, pl.1 (sh.1) | 96K | complete |
| Roseville 7.5 | MF 1790 (sh.2) | 62K | complete |
| Rumsay 7.5 | MF 1790 (sh.2) | 62K | complete |
| Rush Creek Lakes 7.5 | MF 1810-B | 24K | west of 112°57'30" |
| Sacramento 15 | MF 1790 (sh.1) | 62K | complete |
| Sacramento East 7.5 | MF 1790 (sh.1) | 62K | complete |
| Sacramento West 7.5 | MF 1790 (sh.1) | 62K | complet |
| Saltdale NW 7.5 | B 1708-C | 24K | north of 35°27' east of 117°55' |
| Sams Neck 7.5 | W 1491 | 62K | complete |
| San Bernadino Wash 7.5 | W 1475-O | 62K | NE 1/4 |
| Sanborn Slough 7.5 | MF 1790 (sh.3) | 62K | complete |
| Saxon 7.5 | MF 1790 (sh.1) | 62K | complete |
| Scott Mtn. 7.5 | MF 1600-A,B | 48K | T39N R7W 7<br>T39N R8W 1-2,11-12<br>T40N R8W 35-36<br>Black Rock area in SW 1/8 |
| Sehorn Creek 7.5 | MF 1790 (sh.4) | 62K | complete |
| Seven Lakes Basin 7.5 | MF 1529-C | 62K | primarily N 1/2 (Siskiyou Co.) |
| Sharp Mtn. 7.5 | W 1491 | 62K | complete |
| Shasta Bally 7.5 | MF 1790 (sh.5) | 62K | complete |
| Shasta Dam 7.5 | MF 1790 (sh.5) | 62K | complete |
| Sheep Mtn. 7.5 | W 1491 | 62K | complete |
| Sheepy Lake 7.5 | W 1491 | 62K | complete |
| Shelly Crk. Ridge 7.5 | B 1546, pl.1 | 125K | complete |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Shelly Crk. Ridge 7.5 | B 1546, pl.5 | 62K | complete |
| Sheridan 7.5 | MF 1790 (sh.2) | 62K | complete |
| Shingletown 7.5 | MF 1298 | 62K | complete |
| Shingletown 7.5 | MF 1790 (sh.5) | 62K | complete |
| Shippee 7.5 | MF 1790 (sh.3) | 62K | complete |
| Ship Mtn. 7.5 | B 1546, pl.1 | 125K | primarily N 1/2 |
| Siberia 7.5 | MF 205 | 125K | complete |
| Sidwinder Well 7.5 | B 1710-A | 62K | Palen Mtws. area in NE 1/4 |
| Sierra City 7.5 | MF 1613-A,B | 48K | north of 39°35'15" west of 120°41' in NW 1/4 |
| Signal Hill 7.5 | MF 1709 | 24K | SE 1/4 excl. T11N R18E 27 |
| Sites 7.5 | MF 1790 (sh.3) | 62K | complete |
| Smartville 7.5 | MF 1790 (sh.2) | 62K | complete |
| South China Mtn. 7.5 | MF 1529-C | 62K | Siskiyou Co. and the Eddys area in E 1/2 |
| Stone Valley 7.5 | MF 1790 (sh.3) | 62K | complete |
| Stumpfield Mtn. 7.5 | GQ 1586 | 62K | complete |
| Styx 7.5 | OF 84-407 | 48K | east of 114°50' |
| Sulphur Pond 7.5 | OF 81-1155 | 62K | complete |
| Sulphur Pond 7,.5 | P 438, pl.1 (sh.1) | 125K | excl. north of 38°06' |
| Summit Valley 7.5 | B 1546, pl.1 | 125K | primarily south of 41°35' west of 123°47' |
| Sutter 7.5 | MF 1790 (sh.2) | 62K | complete |
| Sutter Buttes 7.5 | MF 1790 (sh.2) | 62K | complete |
| Sutter Buttes 15 | MF 1790 (sh.2) | 62K | complete |
| Sutter Causeway 7.5 | MF 1790 (sh.2) | 62K | complete |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Tangle Blue Lake 7.5 | MF 1600-A,B | 48K | T38N R7W 4-6<br>T38N R8W 1-2, 11-14, 23-24, 26<br>T39N R7W 7,18,28-33<br>T39N R8W 11-14, 23-24, 26, 35-36<br>in W 1/2 |
| Tar Bully 7.5 | MF 1790 (sh.5) | 62K | complete |
| Tar Bully 7.5 | OF 84-105 | 100K | complete |
| Taylor Monument 7.5 | MF 1790 (sh.1) | 62K | complete |
| Tejon Hills 7.5 | B 1651 | 125K | primarily north of 35°06'45" |
| Tejon Ranch 7.5 | B 1651 | 125K | T32S R30E 22-27 (north of Horsethief Mtn. west of Horsethief Flat in NE 1/4) |
| The Sphinx 7.5 | GQ 1399 | 62K | complete |
| Thousand Lakes Valley 7.5 | GQ 248 | 62K | complete |
| Tiefort Mts. 7.5 | W 1460-F | 62K | W 1/2 |
| Tioga Pass 7.5 | GQ 1570 | 62K | complete |
| Tioga Pass 7.5 | MF 1453-A | 62K | Mono Co. |
| Tisdal Weir 7.5 | MF 1790 (sh.2) | 62K | complete |
| Truman Meadows 7.5 | GQ 1013 | 62K | complete |
| Truman Meadows 7.5 | MF 1361-A | 62K | complete |
| Truman Meadows 7.5 | P 438, pl.1 (sh.1) | 96K | complete |
| Tuolumne Meadows 15 | I 1639 | 24K | south of 37°47'05" west of 119°29'10" in SW 1/4 in area of Pinnacles and Clouds Rest |
| Tuscan Buttes 7.5 | MF 1790 (sh.5) | 62K | complete |
| Tuscan Buttes 15 | MF 1790 (sh.5) | 62K | complete |
| Tuscan Buttes 15 | OF 84-105 | 100K | complete |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Tuscan Buttes NE 7.5 | OF 84-105 | 100K | complete |
| Tuscan Springs 7.5 | MF 1790 (sh.4) | 62K | complete |
| Tuscan Springs 7.5 | OF 84-105 | 100K | complete |
| Twentynine Palms Mtn. 7.5 | MF 205 | 125K | north of 34°02' |
| Twin Lakes 7.5 | MF 1101-A | 62K | excl. north + south of Twin Lakes |
| Ubehebe Crater 15 | MF 1770 | 62K | excl. California area in SE 1/4 |
| Ubehebe Peak 15 | B 1708-A | 62K | north of 36°35' south of 36°40' west of 117°44' |
| Val Verde 7.5 | OF 85-587 | 24K | complete |
| Valley Springs 7.5 | MF 1797(sh.1) | 1K | T4N R10E 3-4 (Penn Mine area in NW 1/4) |
| Valley Springs 7.5 | MF 1797 (sh.2) | 5K | T4N R10E 4 T5N R10E 33-34 (Penn Mine area in NW 1/4) |
| Verona 7.5 | MF 1790 (sh.2) | 62K | complete |
| Vina 7.5 | MF 1790 (sh.4) | 62K | complete |
| Viola 7.5 | GQ 248 | 62K | complete |
| Wallace 7.5 | MF 1797 (sh.1) | 1K | T4N R10E 4 |
| Wallace 7.5 | MF 1797 (sh.2) | 5K | T4N R10E 4 |
| Waucoba Wash 15 | B 1708-A | 62K | south of 35°49' west of 117°51' in SW 1/4 |
| Waucoba Wash 15 | MF 1733-A | 62K | south of 36°50' west of 117°51' in SW 1/4 |
| Weaverville 7.5 | MF 1810-B | 24K | north of 40°42'30" west of 122°57'30" NW 1/8 |
| Weldon 7.5 | B 1651 | 125K | excl. east of 118°15'45" |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| West of Biggs 7.5 | MF 1790 (sh.3) | 62K | complete |
| West of Broadwell Mesa 7.5 | I 478 | 62K | complete |
| West of Broadwell Mesa 7.5 | MF 205 | 125K | complete |
| West of Budweiser Wash 7.5 | MF 205 | 125K | complete |
| West of Gerber 7.5 | OF 84-105 | 100K | complete |
| West of Huntoon Spring 7.5 | OF 81-0274 | 62K | complete |
| West Prospect Peak 7.5 | GQ 345 | 62K | complete |
| Westgard Pass 7.5 | GQ 529 | 62K | complete |
| Westgard Pass 7.5 | I 506 | 125K | complete |
| Westgard Pass 7.5 | MF 256 | 62K | complete |
| Westgard Pass 7.5 | MF 1361-A | 62K | complete |
| Westgard Pass 7.5 | P 110 | 125K | complete |
| Westgard Pass 7.5 | P 438, pl.1 (sh.2) | 96K | complete |
| West Gerber 7.5 | MF 1790 (sh.4) | 62K | complete |
| Wheatland 7.5 | MF 1790 (sh.2) | 62K | complete |
| Whiskey Town 7.5 | MF 1790 (sh.5) | 62K | complete |
| Whitaker Peak 7.5 | OF 85-587 | 24K | S 1/2 |
| Whitmore 7.5 | GQ 993 | 62K | complete |
| Whitmore 7.5 | MF 1790 (sh.5) | 62K | complete |
| Whitmore 15 | MF 1790 (sh.5) | 62K | complete |
| Wilbur Springs SW 7.5 | OF 85-285 | 24K | excl. NE 1/4 and Bear V. |
| Wilbur Springs 15 | OF 85-285 | 24K | SW 1/4 excl. Bear V. and east of Bear V. |

| QUADRANGLE | PUBLICATION | SCALE | COVERAGE |
|---|---|---|---|
| Wildwood 7.5 | MF 1808 | 62K | complete |
| Wildwood School 7.5 | MF 1790 (sh.2) | 62K | complete |
| Williams 7.5 | MF 1790 (sh.2) | 62K | complete |
| Willits NW 7.5 | OF 84-19 | 24K | complete |
| Willits SW 7.5 | OF 84-20 | 24K | complete |
| Willows 7.5 | MF 1790 (sh.3) | 62K | complete |
| Winters 7.5 | MF 1790 (sh.1) | 62K | complete |
| Woodland 7.5 | MF 1790 (sh.1) | 62K | complete |
| Woodland 15 | MF 1790 (sh.1) | 62K | complete |
| Woolstaf Creek 7.5 | B 1651 | 125K | primarily NW 1/2 |
| Yolla Bolly 15 | OF 84-105 | 100K | complete |
| Yosemite 15 | I 1639 | 24K | north of 37°42'<br>east of 119°43'40"<br>primarily N 1/3 |
| Yuba City 7.5 | MF 1790 (sh.2) | 62K | complete |
| Zamora 7.5 | MF 1790 (sh.2) | 62K | complete |

# THE MAP COLLECTION
# ARIZONA STATE UNIVERSITY LIBRARIES

by

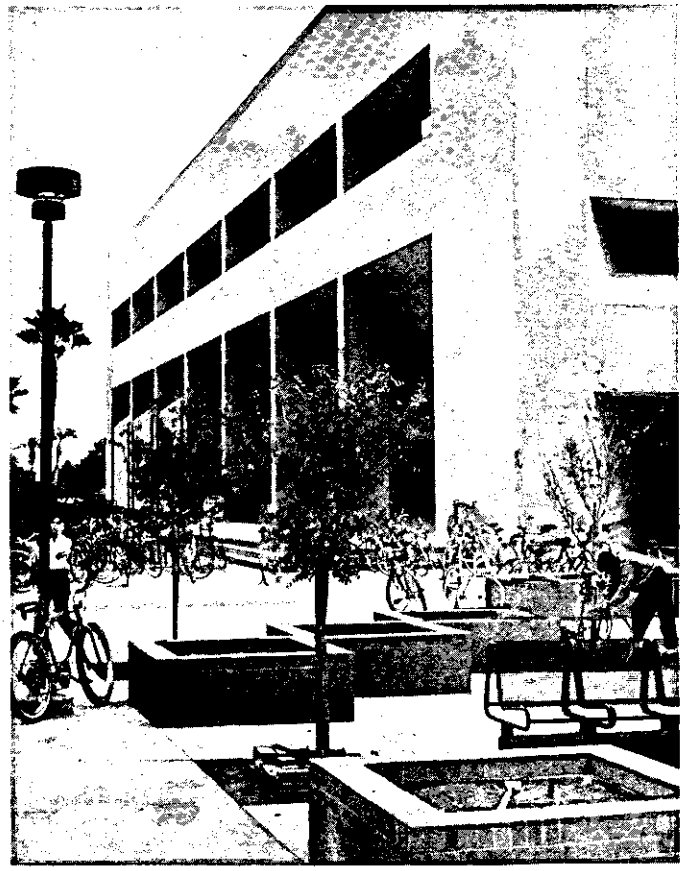
Rosanna Miller
Head, Map Collection
University Libraries
Arizona State University
Tempe, Arizona

In August of 1983, the Arizona State University Libraries' Map Collection was relocated from Hayden Library to the new Daniel E. Noble Science and Engineering Library. Planning for this library had begun in late 1978. By early 1979, a firm decision to move the Map Collection to the new building had been made. Dating from this decision, the Map Librarian was fully involved in all stages of planning. Every decision affecting the Map Collection, from location in the building to floor plan to specifics of equipment and furnishings, was subject to her consideration and approval. The architects for Drover, Welch, and Lindlan, the firm selected for the project, were invariably receptive to suggestions for meeting the unique needs of the Map Collection. At this time, the Collection consisted of more than 100,000 sheet maps and supporting cartographic reference material, including atlases, gazetteers, and related interpretative resources. The prospect of moving a collection of such magnitude across campus was daunting, to say the least, and the logistics of the move are beyond the scope of this paper.

## MAP COLLECTION - BASIC DESCRIPTION

The Collection to be accommodated in planning Noble Library was, and is, primarily contemporary in time span and of widespread geographic scope and thematic interest. Geographically, there is a natural emphasis on the Southwestern United States and Mexico. Historical maps of Arizona and the Southwest are not located in the Map Collection in Noble Library; they are the property of either the Arizona Collection or the Arizona Historical Foundation and are housed in Hayden Library.

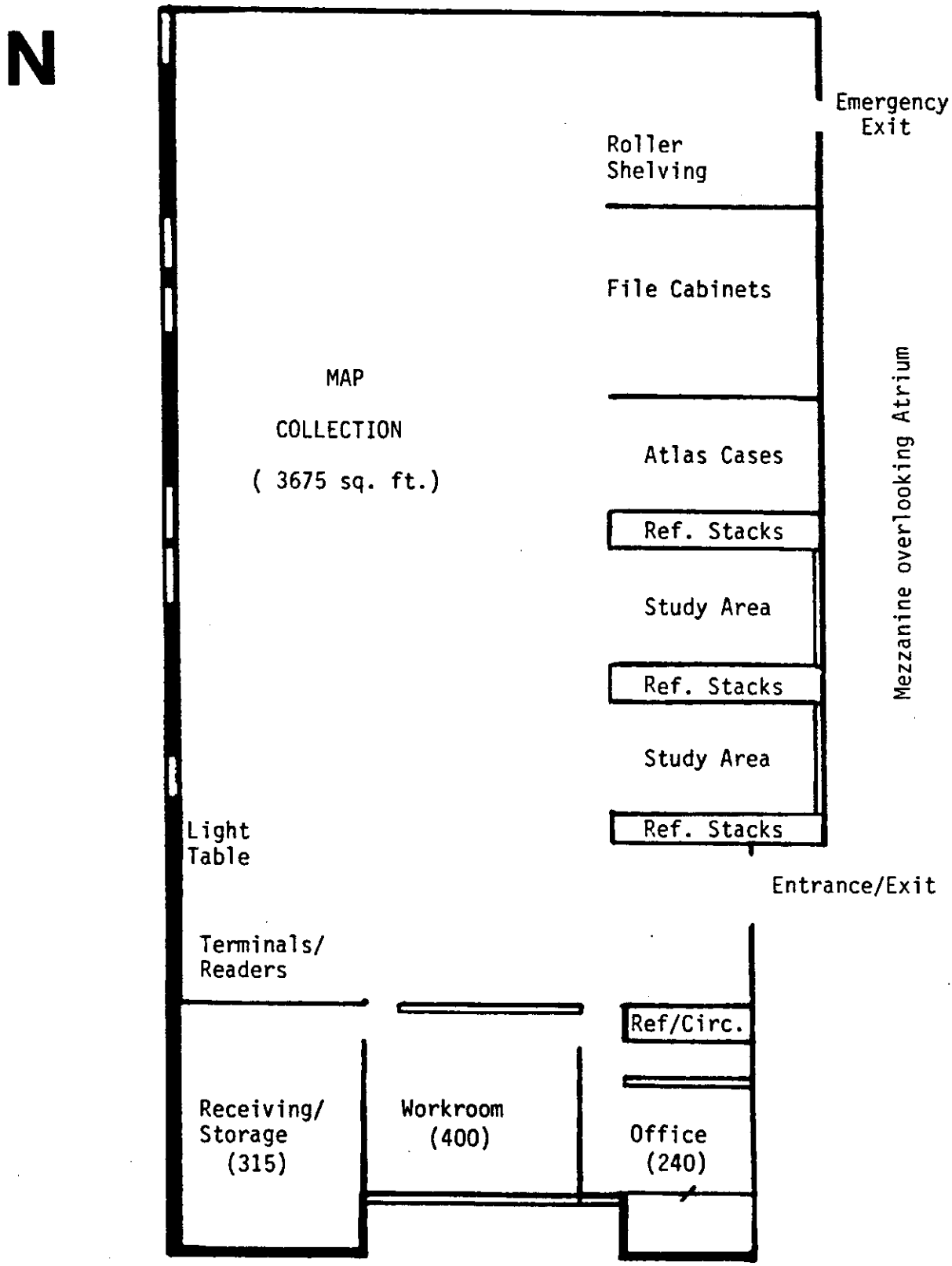
Maps are acquired through a variety of sources. Map materials obtained from the U.S. Government form the core of the University Libraries' Map Collection. Since its consolidation from fragmentary and scattered campus collections in 1970, the Collection has held depository status with both the U.S. Geological Survey and the Defense Mapping Agency. There are no immediate spatial constraints imposed upon the Map Collection, as provisions for future expansion were written into the plans for Noble Library. Consequently, we are able to continue collecting USGS maps for the entire United States and DMA maps, as released to depositories, on a worldwide basis. Maps produced by other



Noble Library


Noble Library - Atrium

Photos by Harvey Sager




MAP COLLECTION
ARIZONA STATE UNIVERSITY LIBRARIES

federal agencies, e.g., Forest Service, Census Bureau, Bureau of Land Management, are acquired through a cooperative agreement with the University Libraries' Government Documents Department whereby maps received as part of their depository shipments are forwarded to the Map Collection for classification, indexing, permanent location, and public accessibility. Many maps are purchased from commercial publishers, and mapping agencies of other countries, and state and local government map producers. A certain percentage of map material is obtained through gift and exchange agreements. It has also been our good fortune to receive several donations from private map collectors over the past few years.

Access to the Map Collection is provided by the Map Catalog Index, also known as the KWOC Index for Maps. This index on microfiche serves many of the functions of a traditional catalog with the added advantage of supplying additional access points to reflect more or less detail as required by the content of a given map. The Map Catalog Index allows for descriptors, in lieu of subject headings, in sufficient quantity and specificity to denote both broad and narrow geographic and thematic emphasis. Other descriptors, less frequently employed, denote map series titles and proper names of prominent or historically significant cartographers. Physical Location Codes allow for incorporating the separate map collections in the Arizona Collection and the Arizona Historical Foundation into the Index. The Index will be online in the not too distant future.

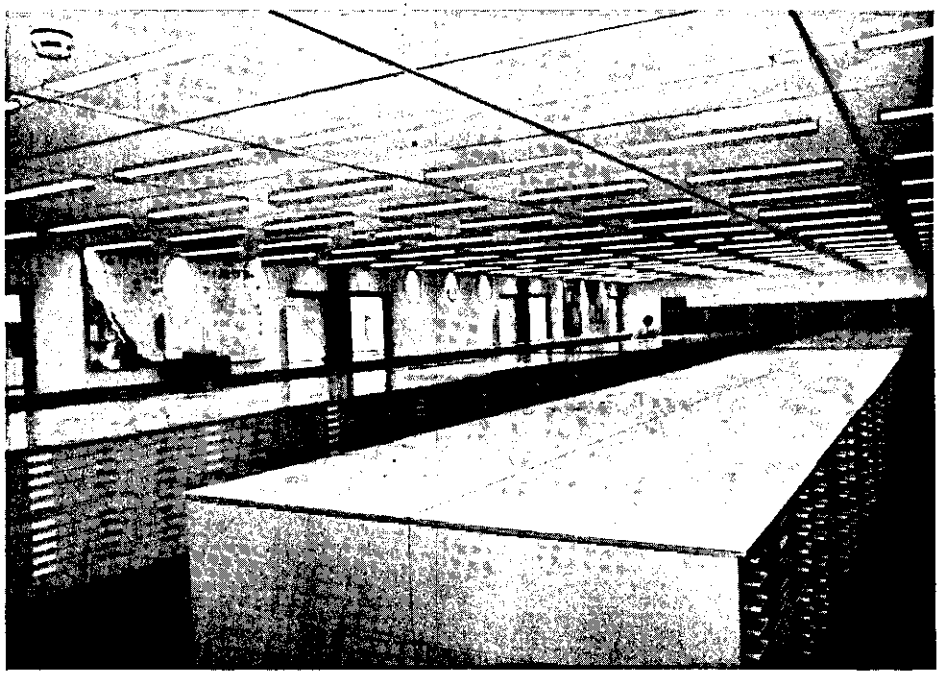
Almost all maps located in Noble Library are available for circulation with a loan period of one month for faculty/staff and one week for students. Aerial photographs are noncirculating as are the historical maps located in Hayden Library.

## DESIGN REQUIREMENTS

Working closely with the architects in planning the Map Collection was a once in a lifetime opportunity to legislate one's own environment. It was an exciting, challenging, and somewhat intimidating experience in view of ramifications for the future. The planning approach was from negative to positive. We knew that virtually everything, from space to equipment to security, had been lacking for nearly ten years, the life-span of the Collection. Our intent was to remedy existing deficiences and to anticipate and provide for future needs.

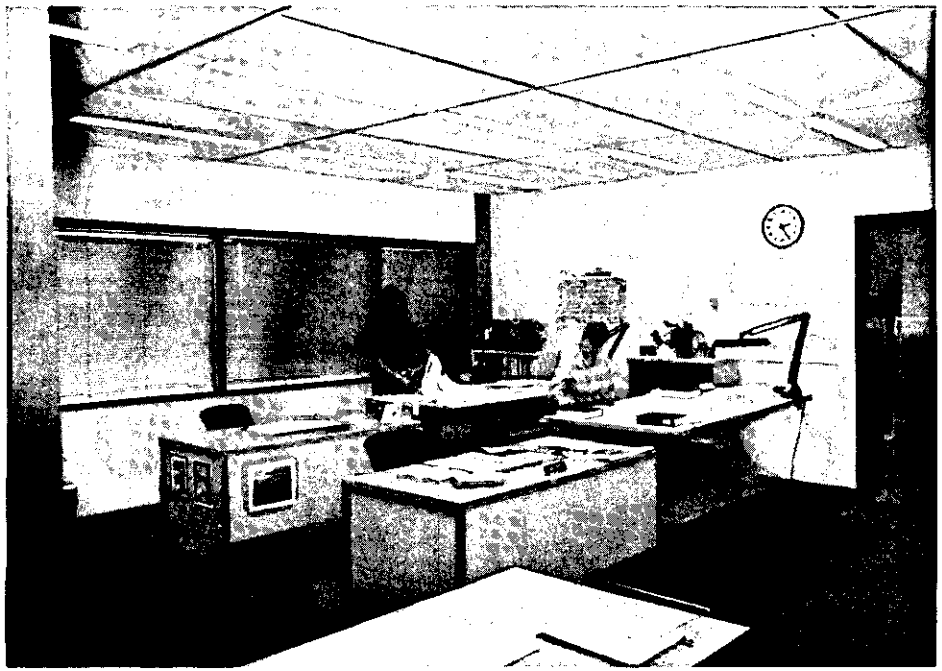
## SPACE, EQUIPMENT, & FURNISHINGS

The Map Collection had occupied two different locations in Hayden Library, both of which were totally inadequate in space, functional planning, and security. The second and larger location had been carved



East Windows provide Natural Light - George Ilinsky in far distance

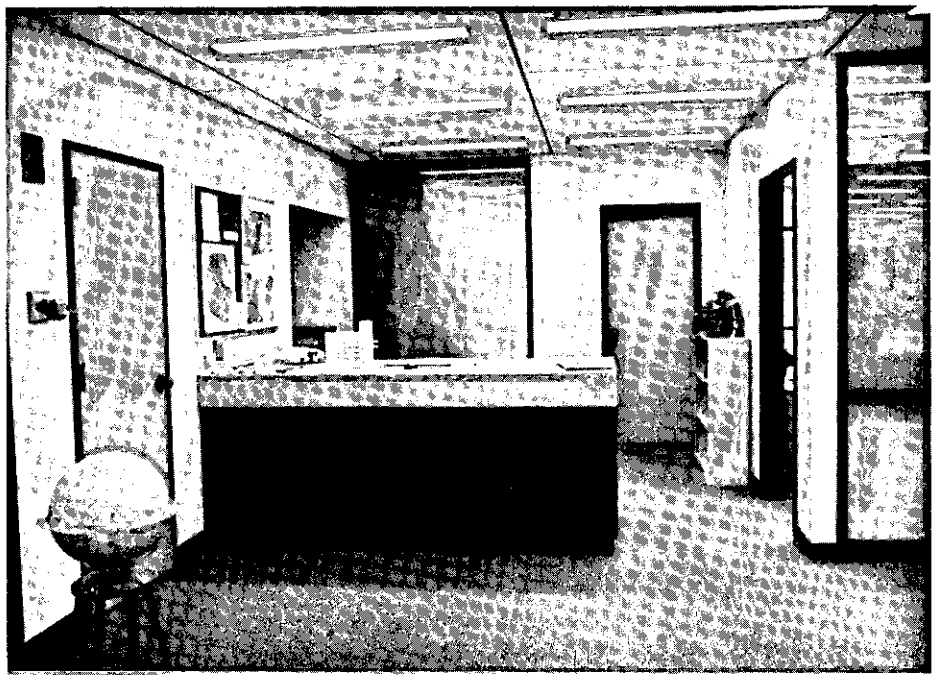
View of Workroom from Map Collection



Ginny Guerra & Julie Hoff Process Maps in Workroom

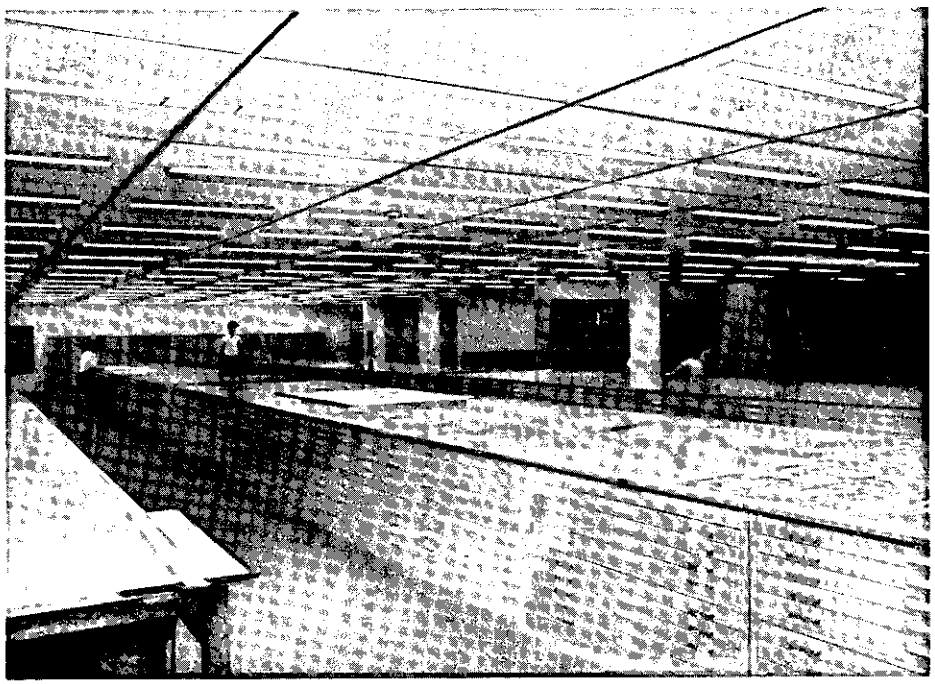
Rosanna Miller, Incumbent Map Librarian, in Office

Photos by Steve Long

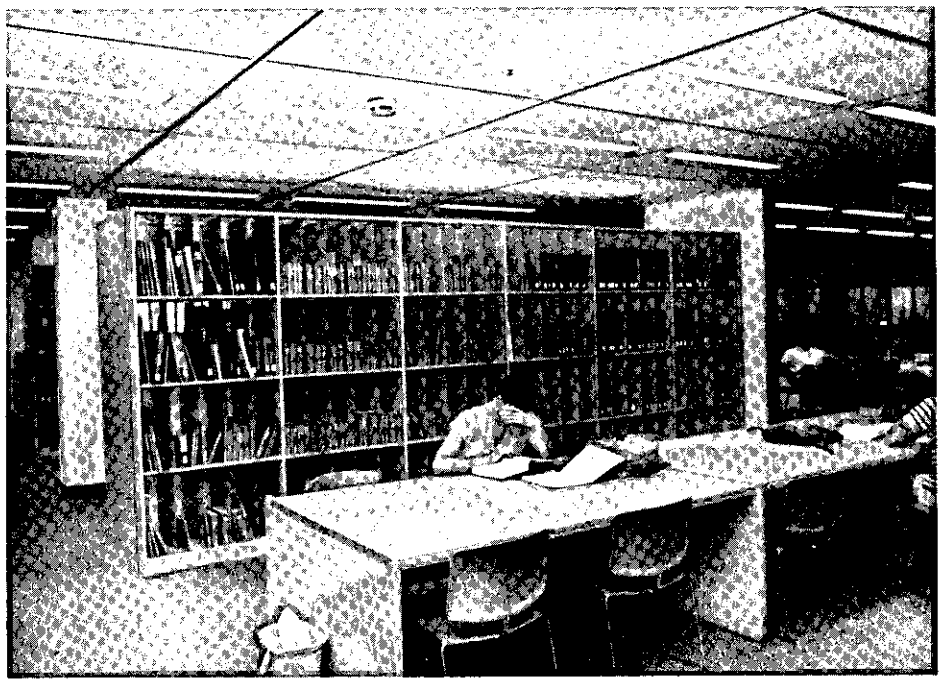


Reference/Circulation Counter - View from Entrance

Built-in Map Tube Storage - Office through Window



Map Collection from Southwest corner - Approx. 80' ft. to North Wall



Study Area showing Oversize Shelving with Adjustable Divider Plates. View of Mezzanine through Window.

Photos by Steve Long

out of a former stacks area with no significant modification for function. Public Service and Map Processing were not differentiated. There was no office. There was no storage room. Security, at best, was minimal. Equipment and furnishings were of the Early Newlywed or Late Grad Student Period.

The Map Collection was allocated 4630 sq. ft. on the Second Level of Noble Library. Of this total, 3675 sw. ft. was assigned to the Public Service area. A reference/Circulation counter, with built-in map tube storage, was located adjacent to both the workroom and the Map Librarian's office. This area was planned for easy monitoring of patrons entering or exiting the Map Collection. Electrically equipped carrels were placed near the north door to the workroom to accommodate terminals and fiche readers. A light table was also located in this area.

The greater part of Public Service space was devoted to 204 Hamilton 5-drawer map cases initially stacked 2-high to allow for upward expansion. Separate alcoves were designed for 12 atlas cases and 25 file cabinets of 4 drawers each. One double faced special roller shelving unit (no longer on the market) was purchased from RHC-Spacemaster to shelve elephant folios. The Map Collection was fully carpeted to absorb sound and contribute to a quieter work and study environment.

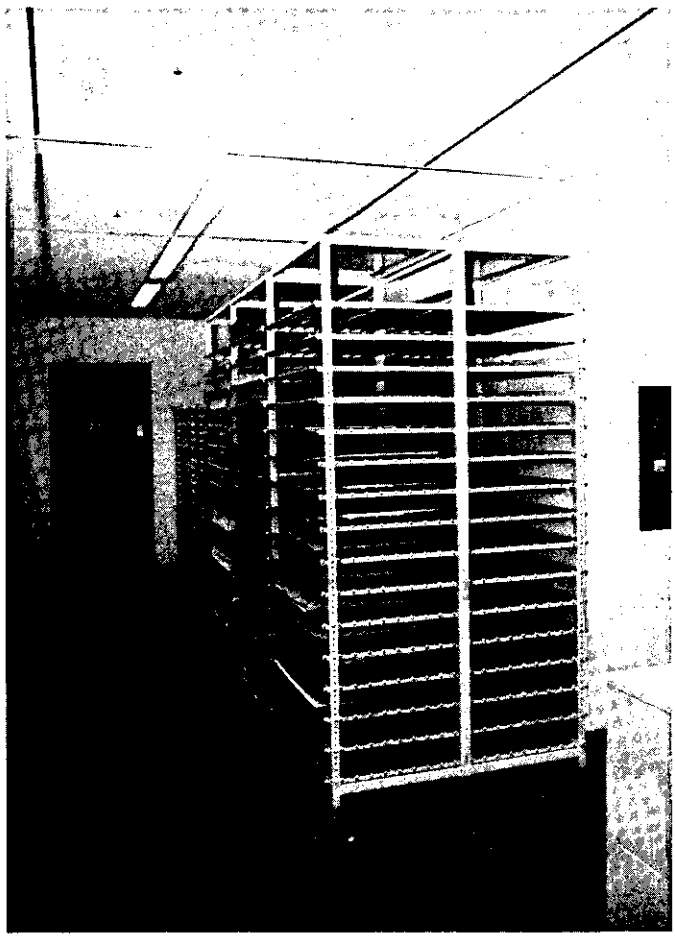
RHC-Spacemaster was also the source for Map Reference shelving located on either side of the study area and serving as a divider to provide some privacy and further noise abatement. This shelving, developed for the Library of Congress Music Library, was selected for added height and depth of shelves for accommodating large and heavy atlases. A deciding factor in the selection of this shelving was the adjustable divider plate feature which eliminated the need for ineffective bookends. The study area was furnished with four large tables with a seating capacity of twenty people.

Remaining space, 955 sq. ft., was divided into office, workroom, and receiving/storage room. The office and workroom were planned with visibility of the Collection and the entrance/exit as a primary goal; it is common for only one person to be on duty at a given time. The workroom and office were afforded an abundance of natural light by south-facing recessed windows. All furnishings and equipment, with few exceptions, were purchased new. The workroom was equipped with drafting tables for map processing in addition to the usual furnishings.

## RETROSPECT & FUTURE

Hindsight is frequently the saddest of perspectives. Fortunately, the design of the new and improved Map Collection has provided scant cause for regret. The workroom and receiving/storage room should, ideally, have been larger. A window should have been substituted for the workroom's visibility impairing eastern wall. In other respects, the design has proved to be efficient and effective.

For the future, we envision expanding northward into an existing general study area, exceeding 1000 sq. ft. in floor space, as stipulated by the initial planning of Noble Library. After all, to modify Browning a bit, "One's reach should exceed one's grasp, or what's a Library for?"



Photos by Steve Long

Elephant Folio Shelving - NE Corner of Map Collection

# Map Libraries and a Subject Heading Code

by

**William E. Studwell**
Northern Illinois University

Recently there have been more and more signs that a comprehensive theoretical code for LC subject headings may possibly be coming. Outside of the Library of Congress there has been growing interest in subject access in the past few years, as reported by Doris Cruger Dale and Betty-Ruth Wilson in a review of the literature for 1984-1985:

> The need for improved subject access to library collections was the major theme in the literature of these two years.... There were many articles on LCSH including some which suggested changes and additions.(1)

In addition, Lois Chan (for the second time)(2) has strongly recommended a comprehensive reexamination of the LC subject system and William Studwell has directly called for a subject heading code in an extended essay(3) and an editorial(4).

Inside the Library of Congress, LC's development of two editions of their Subject Cataloging Manual (in 1984 and 1985)(5) seems to be an indicator of their increasing propensities toward a subject code. This presumption is strongly reinforced by a recent letter by Mary K. D. Pietris, Chief of the Subject Cataloging Division, in which she states:

> We lack a recently-written description of basic principles.... Although we plan to incorporate information on basic principles into the Manual, changes in cataloging procedures requiring new or revised memos have an urgency that prevents available staff from turning their attention to theory. Even if time were available to write down the basic principles, the theory would overlay current practice and would therefore fail to support many existing headings and the contents of many bibliographic records. (6)

The improved subject access resulting from a comurehensiv# theoretical code which covers all matters relating to LC subject headings would be an advantage to all types of libraries. But some sectors of librarianship would benefit more than others. Map libraries, like other collections specializing in non-book materials, would gain more from such a code than many other types of libraries since maps historically have received less attention

in cataloging matters than materials like monographs and serials. Therefore, map librarians should take a special interest in encouraging the development of a subject code.

Such promotion could be done through direct contact with LC, through professional meetings and organizations, and by using the literature to support the concept and to contribute ideas. The more activity there is towards this end, the better will be the chance for the realization of a subject heading code within the upcoming years.

## Notes

1. Doris Cruger Dale and Betty-Ruth Wilson, "A Survey of the Literature on Subject Analysis for 1984-1985," Library Resources & Technical Services 30:261 (July/September 1986).

2. Lois Mai Chan, Library of Congress Subject Headings: Principles and Application (2nd ed.; Littleton, Colo.: Libraries Unlimited, 1986, p. XV.)

3. William E. Studwell, "Why Not an 'AACR' for Subject Headings," Cataloging & Classification Quarterly 6, no. 1:3-9 (1985).

4. William E. Studwell, "Academic Libraries and a Subject Heading Code," Journal of Academic Librarianship (January 1987).

5. Subject Cataloging Manual: Subject Headings (Prelim. ed.; Washington: Library of Congress, 1984); also revised edition, 1985.

6. Letter of Mary K. D. Pietris to Paule Rolland-Thomas of the University of Montreal, May 19, 1986.

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# Reconstructing Historical U.S. County Boundaries

by*

William Thorndale

However large an American map library may be, it does not have outline maps for all U.S. county boundary changes. Such boundary evolution maps would help historians, statisticians, and genealogists plot historical data and identify former jurisdictions for desired records. Yet not one project has ever completed such boundary evolution maps for all of the approximately 3100 U.S. counties from the creation of the first county in 1634 in Virginia to the present. What has been attempted and accomplished is the subject of this review.

Unlike today when county lines are almost never changed, in the early years of each state the frequent boundary shifts introduced great uncertainty into contemporary maps. Anyone who compares, say, the Arkansas maps published in the 1830s will quickly see how unreliable was topographic knowledge and how contradictory were the displayed county lines. Reconstitution of such old county lines by modern research cannot trust the old maps; it must be based on the session laws creating and altering county boundaries.

At the risk of belaboring the obvious, one example from Arkansas will prove the point. In 1820 the boundary between Independence and Lawrence counties was defined as a diagonal line running straight from Big Black River to the vicinity of Strawberry River (1). Three years later the line was changed to run along the township and range lines in a stepped pattern (2). Yet on the Arkansas maps in the Library of Congress from the late 1830s there were state maps of 1836, 1838, 1839, and 1840 that still showed the old diagonal line which was obsolete for at least thirteen years. The correct line was on maps dated from 1833 to 1846. It seems that the choice of county lines shown on state maps, many from atlases published in far-off Boston and Philadelphia, depended on which earlier map happened to be copied. Therefore any project reconstructing county boundary evolutions must have the actual session laws and compiled statutory codes to evaluate the accuracy of contemporary maps. Projects based on contemporary maps and not the statutes are inherently suspect.

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* As presented by William Dollarhide, September 12, 1986, at the WAML Fall Meeting, Eugene, Oregon.
William Thorndale and William Dollarhide are compilers and publishers of Map Guide to the U.S. Federal Censuses.

While some interest was shown in the nineteenth century about old county lines, the first serious map projects date from the turn of the century. Boundary descriptions for Michigan counties were published in 1877, and the same was done for pre-1803 Ohio counties in 1897 and ten years later for Iowa, though these had few maps (3). Studies with maps were soon published for Colorado by historian Frederic Paxson and for Maryland by its Geological Survey (4). Kansas county evolutions were worked out in a 1903 master's thesis (5). These map studies remain authoritative, being based on the statutes.

Soon thereafter the federal government published current county outline maps for the whole country. The population volumes of the 1910 and 1920 federal census reports include these outline maps and are mentioned here because they are now used for a series of outline maps plotting decennial data. These maps reflect the establishment of the permanent Census Bureau in 1902 and its resulting ability to monitor boundary changes in planning the next census. The accuracy of these small-scale outline maps is generally good, probably due more to the stabilization of boundary lines after 1900 and the improved cartography of the day than from any meticulous assembling by the Census Bureau of all statutes altering county lines. These maps for 1910 and 1920 counties occasionally make obvious errors that could not have been misconstructed from legal descriptions.

The first retrospective maps of county lines for the whole country were sheets compiled by the U.S. Department of Agriculture for 1840-1900, reportedly as basemaps for a never-published agricultural atlas (6). While unpublished, these outline maps have been relatively well known from being available at various research libraries -- for instance, the Salt Lake Genealogical Library -- and available from the National Archives in photostatic copies. The accuracy is acceptable given the small scale. The maps nearly always show the counties for the right years, but approximate the precise running of lines between counties. Scholarly precision was neither sought nor achieved, the maps being deemed of sufficient accuracy for plotting census data. These maps were redrafted along with later decennial outline maps presumably obtained from the U.S. Bureau of the Census and published in loose sheets in 1984 as the Historical U.S. County Outline Map Collection, 1840-1980 (7). The redrafting improved legibility, but the maps remain better suited for plotting data than precisely displaying former county bounds. The redrafting introduced the possibility for new errors, such as a few unlabeled counties and Oconee County being added to 1860 South Carolina eight years before Oconee was created.

While several authoritative state studies were published in the decades after World War I -- New Mexico (1922), California (1923), Ohio (1927), Indiana (1933) (8) -- the most ambitious national project ever attempted was begun in the late 1930s by the Historical Records Survey. The HRS created two projects requiring

a knowledge of former county lines: its county inventory volumes and its congressional roll call mapping project. Some state HRS divisions collected a great deal of information on old boundary laws and a few published crude maps in the county inventory volumes, but most of the material still lies in archives undigested and unmapped. However, a few states did publish their assembled county boundary laws (9).

The congressional roll call project of the national HRS proposed to map the national distribution of approximately 54,000 call votes in Congress 1789-1932. The congressional districts had first to be mapped, which required drawing many old county lines. At its height, this project employed about 350 people (10), but it soon fell victim to the war without finishing much. Recently the project's surviving papers were used extensively by Kenneth Martis for his outstanding Historical Atlas of United States Congressional Districts, 1789-1983, which has maps of all congressional districts for each biennial Congress (11). Through Martis's efforts these HRS papers were deposited in the cartographic collection of the National Archives in Alexandria, Virginia (12). However, the collection of county boundary statutes suffers from many missing laws, while the working maps of boundary changes are crude, small scale, and often of dubious accuracy. The coverage of maps varies greatly among the states, from 140 sketch maps for Kentucky to one for Maryland and no maps for most Western states. Researchers working on a county boundary monograph should not trust the law compilations in these papers but might inquire by letter for working maps available for a particular state and the cost of getting photocopies. Since the territories had no vote in Congress, the HRS congressional roll call project did not research territorial county lines.

In 1973, Stephen Birdsall and John Florin published their loose Series of County Outline Maps of the Southeastern United States for the Period 1790-1860 (13). These are much like the Department of Agriculture's maps already described and seek to convey the contemporary counties in their approximate positions. Birdsall and Florin did not create a major research project to collect all original laws, which may explain how Madison and Washington counties are shown in 1810 and 1820 for Mississippi before such counties were created: the authors have confused these counties with their Alabama namesakes that did exist in Mississippi Territory in 1810. This map series ought to be used with more than usual caution.

The county boundary project receiving the most recent publicity and institutional support was that directed by John Long and funded by the Newberry Library and the National Endowment for the Humanities. From a pilot project begun in 1975 covering four Middle Atlantic states, the Newberry project was twice expanded until it eventually completed an additional ten states around the Great Lakes and the adjoining area to the west. Based on the statutes as supplemented by contemporary maps and local histories, the project sought all county changes and created computerized

data files so that any county boundary could be plotted by machine for any specific day of the county's existence back o 1788. Funded in three two-year increments with a cumulative budget of over $430,000, mostly from the National Endowment for the Humanities, the project proved too time-consuming to gain further monies (14). Certainly most of the southeastern states with their lack of townships and ranges would have been far more difficult than any of the fourteen states completed.

But the project accomplished several valuable goals. It proved the difficulty of working out all the county boundary changes of a typical American state. The five published volumes are a model for presenting the statutory citations for each boundary change and displaying at good scale all known line changes 1788-1980 for nearly one-third of all U.S. counties. The format does have one methodological pitfall that introduces significant errors. A county's various line changes are drawn on a modern basemap of 1:500,000 scale such that sectors receive letter codes that assemble into the county's area for any given day. Thus, Traill County, North Dakota, included areas A, B, C from 12 January 1875 to 17 February 1881, then areas B, C from 18 February 1881 to 1 June 1883, and so forth (15). This format links dates and maps via the letter codes and sometimes typographical errors give the wrong letters. For example, Bergen County, New Jersey, lists several years with area F but the map has no F (16). Mercer County, New Jersey, for modern bounds omits letter D, yet area D is the core of modern Mercer (17).

The most recent national boundary project is the Map Guide to the U.S. Federal Censuses, 1790-1920, to be published as a book in 1987. This project uses county boundary laws either directly for a state never before worked out, such as South Carolina, or follows scholarly monographs for states such as New Jersey and California that have studies based on boundary laws (18). The Map Guides are restricted to census years and extend only through 1790-1920. A major format strength is the drawing of former boundaries against the modern lines, which facilitates easy comparisons.

In evaluating the various county boundary projects reviewed here, the most impressive fact is the massive size of any undertaking that would map all boundary changes for all U.S. counties. The aborting of the Newberry project suggests that the future belongs to state monographs. Persons interested in doing such a state study should consult the general publications mentioned here and pay special attention to the different formats used for the Newberry project and the states of New Jersey and California.

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[Footnotes appear on following pages:]

## Footnotes

to Thorndale's
Reconstructing Historical U.S. County Boundaries

(1) Arkansas session laws in 1819 and 1820, p. 126, 23 October 1820.

(2) Ibid., October 1823, p. 50, 30 October 1823.

(3) "Reports of Counties, Towns, and Districts," Pioneer Collections. Report of the Pioneer Society of the State of Michigan 1 (1877), 94-520; "The Evolution of Ohio Counties," J.F. Laning, Ohio Archaelogical and Historical Publications 5 (1897), 326-350; "History of the Establishment of Counties in Iowa," Frank Harmon Garver, Iowa Journal of History and Politics 6 (1908), 375-456, and his "Boundary History of the Counties of Iowa," ibid., 7 (1909), 3-131.

(4) "The County Boundaries of Colorado," Frederic L. Paxson, Colorado University Studies 3 no. 4 (1905), 197-216; "The Counties of Maryland: Their Origin, Boundaries, and Election Districts," Edward B. Mathews, Maryland Geological Survey 6 (1906), 418-572.

(5) "The Establishment of Counties in Kansas," Helen G. Gill, Transactions of the Kansas State Historical Society 8 (1903-1904), 449-472.

(6) Review by Russell S. Kirby of Historical U.S. County Outline Map Collection, 1840-1980, Thomas D. Rabenhorst, et al. (1984), in Bulletin, Special Libraries Association, Geography and Map Division no. 136 (June 1984) 86; see also Guide to Genealogical Research in the National Archives (Washington: National Archives and Records Service, 1982), pp. 260-261.

(7) Thomas D. Rabenhorst, ed., et al. (Baltimore: Dept. of Geography, University of Maryland Baltimore County, 1984).

(8) "The County Boundaries of New Mexico," Charles F. Coan, Southwestern Political Science Quarterly 3 (1922), 252-286; California County Boundaries: A Study of the Division of the State into Counties and the Subsequent Changes in Their Boundaries, Owen C. Coy (Berkeley: California Historical Survey Commission, 1923); "Evolution of Ohio County Boundaries," Randolph Chandler Downes, Ohio Archaeological and Historical Quarterly 36 (1927), 340-477; Indiana Boundaries: Territory, State, and County, George Pence and Nellie C. Armstrong (Indianapolis: Indiana His-

torical Bureau, 1933), Indiana Historical Collections, v.19.

(9) For instance, County-Parish Boundaries in Louisiana, Historical Records Survey (New Orleans: Department of Archives, Louisiana State University, 1939), and State and County Boundaries of Mississippi, ibid. (Jackson: Mississippi Historical Records Survey, 1942).

(10) The Historical Atlas of United States Congressional Districts, 1789-1983, Kenneth C. Martis (New York: The Free Press, 1982), p. 31.

(11) Ibid.

(12) Clifford Lord Collection, Record Group 69.

(13) Stephen S. Birdsall and John W. Florin (Chapel Hill: Dept. of Geography, University of North Carolina, 1973).

(14) Project files, supplied by the National Endowment for the Humanities.

(15) Historical Atlas and Chronology of County Boundaries, 1788-1980, John H. Long, ed., (Boston: G.K. Hall, 1984), 5:256.

(16) Ibid., 1:75.

(17) Ibid., 1:84.

(18) The Story of New Jersey's Civil Boundaries, 1606-1968, John P. Snyder (Trenton: Bureau of Geology and Topography, 1969), Bulletin 67; see footnote 8 above for California.

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# ATLAS & BOOK REVIEWS

edited by

**Peter L. Stark**

Map Librarian
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Ansari, Mary B. **Comstock Place Names: The Names of Storey County, Nevada.** Reno, NV: Camp Nevada, 1986. 59 p. $9.50 LC: 86-72377 ISBN 0-933504-06-3

For many years, I have been fascinated by the history of the Virginia City area. I also enjoy reading books about place names, especially ones that provide accurate locations and interesting descriptions of particular sites, so I was very pleased to have the opportunity to review Mary Ansari's publication, **Comstock Place Names: The Names of Storey County, Nevada.** The purpose of the book is to compile and present a list of place names in Storey County, Nevada, that would provide descriptive information about locations, origins, and local history.

The entries are arranged alphabetically by place name, and each includes the full place name, location, elevation or population, if appropriate, a description of the location, a description and history of the particular site, and information about the origin of the place name, if available. Documentation of the information appears at the end of each entry.

**Comstock Place Names** contains other helpful and interesting features: a list of abbreviations used throughout the text; a list of cited references; and two locator maps, one showing Nevada's quadrangle numbering system, the other showing more detailed coverage of Storey County. Locations appearing in the text refer to the specific quadrangles highlighted on the second map. Abundant "see" references are scattered throughout the volume, referring the reader to alternate spellings or related names located elsewhere. Reproductions of engravings depicting well-known mine sites, geographic locations, and famous individuals in Storey County's history are interspersed among the entries.

I have no major criticisms concerning this publication. Mary Ansari, long the Mines Librarian at The University of Nevada-Reno, provides place name descriptions that are readable, and informative, fulfilling the publication's original purpose. **Comstock Place Names** is a good choice for anyone interested in the history of one of our nation's most colorful and famous areas, and it is a good source for information about the various mines in the Virginia City area. It will certainly benefit geographers and historians alike when they need to locate specific places within this area.

**Judy A. Geitgey**
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Crossfield, Nancy L., Liz Frebold, Charlene Sullivan, Mary Ann Whitney, Compilers. **Directory of Geoscience Libraries United States and Canada.** Third Edition. Alexandria, Virginia: Geoscience Information Society, 1986. 99p. $20.00 (c/o American Geological Institute, 4220 King St., Alexandria, Virginia 22302)

The 407 geoscience libraries listed in this directory are arranged by name of the parent organization and grouped by state for the U.S. followed by Canadian libraries arranged by province. A useful index has been added that did not accompany the 2nd (1974) edition. If you didn't know where the Branner, Lindgren, or Devereaux libraries are located the index will lead you to them.

The information provided for each library includes the library's name and address, name of the person in charge, phone number, electronic mail and/or Telex number, and number of staff. A brief scope statement, subject strengths, unusual materials held are included as well as the number of volumes, number of journal subscriptions, and the number of maps in the library. Information on access, online, and interlibrary loan services is included.

I like the easy to scan format of this directory. The page headers (state or province name) are bold face and underlined, the institution names are all capital letters and underlined. All entries have a uniform layout designed for easy scanning. The list of abbreviations and the index are essential but often overlooked in less well done works.

Directories like this must be very useful but I don't recall ever using the older edition. This probably reflects two things: 1) the nature of my particular job where ILL is handled by a separate department in another building, and 2) the inconvenience

and my reluctance to write letters and telephone and interrupt and bother unseen colleagues. However, electronic mail is threatening to pierce these barriers to peaceful isolation. I can see the usefulness of the easy exchange of ideas on collection development. "Are you going to cancel that journal?" "Are you going to buy that expensive set?" "Do you want my extra copy of Professional Paper 177?" Where did you get that new Friends of the Pleistocene guidebook on Death Valley?" Also, an E-mail system could be used to locate obscure items and then direct the ILL request to that location.

I foresee doing this type of communication on a regional scale and going at least continent-wide when needed. Speaking of E-mail, it seems the Canadian geoscience libraries are more wired than those of us below the border. Being forced to think about the uses of this directory may get me to start using it, E-mail or not.

As a reviewer, I am supposed to nitpick: the New Mexico heading on page 44 is missing, and a blind reference to the Zimmerman Library appears on page 45 (absent in the index also). Otherwise, for those geoscience librarians who are more gregarious, this is an excellent directory and I hope to start using it, somehow. A few related directories include: Geoscience Information Society Membership Directory (Alexandria, VA: Geoscience Information Society, 1985); SLA Petroleum and Energy Resources Division Membership Directory (Washington, D.C.: Special Libraries Association, 1985); and, Directory of Geoscience Departments, United States and Canada, 24th ed. (Alexandria, VA: American Geological Institute, 1985).

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Hodgkiss, A.G. and A.F. Tatham. **Keyguide to Information Sources in Cartography.** New York: Facts on File Publications, 1986. 253p. $40.00. LC: 85-27590 ISBN 0-8160-1403-5

It is always a pleasure for me to review bibliographies in the fields of geography and cartography, for in so doing, I am able to enjoy the fact that these disciplines have truly "come of age". **Keyguide to Information Sources in Cartography** is a welcome addition to bibliographies on cartography and does provide a nice overview of the discipline. Hodgkiss and Tatham's introduction correctly observes that "the literature of cartography is vast and wide-ranging, for mapmaking is an activity that reaches out to everyone in one way or another and one which overlaps numerous other disciplines." (p. ix) Their work is divided into four parts: Part I, consisting of 78 pages, is devoted to a readable

narrative of the history and literature of cartography, map care and cartographic information. Part II is an annotated bibliography of reference sources for the history of cartography and Part III includes reference sources for contemporary cartography. A directory of organizations comprises Part IV.

The 796 annotated references in Parts II and III are well chosen and thoughtfully annotated. Of course, in any selective bibliography, not all entries can be included. For example, one possible additional item for inclusion would have been Norman J.W. Thrower's Maps and Man: An Examination of Cartography in Relation to Culture and Civilization. (Englewood Cliffs, NJ: Prentice-Hall, 1972.).

With regard to the book's format, I would find the bibliography portions much easier to access if Parts II and III's subject divisions were listed in the table of contents. Instead of leafing through 35 pages of Part II or using the index to find the history of map reproduction sources, it would be faster and easier if the user could refer to that subject in the table of contents and turn immediately to page 116. Also, one derives a better idea of what the bibliographies contain if one is able to examine all subject headings at one time.

Another suggestion would be to consider removing Part IV, the directory of organizations, should a subsequent revision be issued. The listing of worldwide map collections and national mapping agencies is just that. Only an address is provided: one cannot find size of collections, other statistics or specialized areas of collections here. Rather than include this list, my recommendation would be to refer users to more exhaustive sources such as The World Directory of Map Collections (Second edition. Edited by John A. Wolter, Ronald E. Grim and David K. Carrington. New York: K.G. Saur, 1986) and/or Orbis Geographicus: World Directory of Geography (Wiesbaden: Franz Steiner Verlag, 1982).

Notwithstanding the above comments, Keyguide to Information Sources in Cartography is a useful tool and is recommended for purchase by academic libraries.

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Magocsi, Paul Robert (author) and Matthews, Geoffrey J. (cartographer). **Ukraine, A Historical Atlas.** Toronto: University of Toronto Press, 1985, reprinted 1986.
Unpaginated, 25 col. maps with text on facing pages/ or ( 59 p., 25 col. maps). ISBN 0-8020-3428-4 (cloth) $35.00
ISBN 0-8020-3429-2 (paper) $16.95

It should be made clear at the outset that this atlas does not compete with and so is not an alternative to **Istorichnii Atlas Ukraini=Historical Atlas Of Ukraine** by Ivan Tesla and Evhen Tiut'ko (New York: Ukrainian Historical Association, 1980). The Magocsi atlas was originally published just prior to the beginning of celebrations marking one thousand years of official acceptance of Christianity in Kiev and therefore in Kievan-Rus. The aim of the author is to provide a sound introduction to Ukrainian history for English speaking students at the Secondary and post-Secondary levels. To accomplish this he has chosen to support an outline of Ukrainian history with clear cartographic representations of political and administrative boundary changes and some geographic, cultural and military development.

One might wonder at the intended audience but, in certain parts of Western Canada, Ukrainian studies have a recognized place in the high school curriculum while for some time the Universities of Alberta and Toronto and Harvard University have Institutes of Ukrainian Studies. Chicago and Winnipeg also have large Ukrainian populations with active cultural centres offering courses to young people in history, language and other aspects of cultural heritage.

**Ukraine, A Historical Atlas** has a look of quality about it. The dust jacket features a fine colour reproduction of Moses Pitt's edition of G. Beauplan's "Typus Generalis Ukrainae" from the English Atlas of 1680. Every map is easy to read and with only a few exceptions, all names used in the text can be found on the map opposite or the reader is given the number of the maps on which it can be found. Map 25 is an index map of names and is accompanied by a gazetteer containing all but one or two of the names used in the text. These few may be beyond the limits of the maps drawn for the atlas. The text is well written, easily read and logically developed with a couple of minor repeats of events to make clear what is shown in the maps without referring back to an earlier map where the occurrence was first mentioned.

The author has used the tried and effective arrangement of first defining his subject and his goals for us, placing us in the modern geographic setting with the first maps, cartographically defining the "Ethnolinguistic setting of the Ukrainian lands" before dealing with three thousand years of Ukrainian history. He or the cartographer have helped us greatly by showing the present boundary of the Ukrainian SSR on all the maps and the contemporary ethnolinguistic boundaries on many of the maps after 1772.

The atlas is a wonderful complement to the **Encyclopedia of Ukraine**, edited by Volodymyr Kubijovyc and also published by the University of Toronto Press, volume 1 in 1984, with others to follow. When complete it will consist of 4 volumes, each of about 1000 pages. The volume presently in hand includes a great deal of geographical and historical information including maps and descriptions of cities and regions. Examples of those used by this reviewer are the "Dnieper Rapids in 1928", three colour maps of the "Distribution of Ukrainian rural population in..." 1921, 1941, and 1971 in the Prairie Provinces of Canada, the "Dnieper Donbas Metallurgical Complex" and the "Population of Donets Basin".

Though **Ukraine, A Historical Atlas** does not deal with Ukrainian people outside of the Ukrainian lands as defined by the author, the **Encyclopedia** does. Both publications should be considered a must for any map library which deals with people interested in the history and development of the Soviet Union, Eastern Europe, Austria-Hungary or just the Ukrainian Lands.

**Ron Whistance-Smith**
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Motteler, Lee S. **Pacific Island Names: a map and name guide to the New Pacific.** Honolulu: Bishop Museum Press, 1986. Bishop Museum Miscellaneous Publication 34.
100 p. ISSN 0888-6776 ISBN 0-930897-12-9 (paper) $9.50
LC: 86-071830 ISBN 0-930897-19-6 (cloth)

Dedicated to the late Edwin H. Bryan, Jr. (1898-1985) whose portrait faces the title page, Lee Motteler notes that this is a "revision of [Bryan's] work." In his dedication to Ed Bryan he notes that "much of the work that he began is being carried on, and this is perhaps his greatest legacy."

**Pacific Island Names** is a major contribution to the place name literature of the world, particularly of this island community in the largest geographical feature - The Pacific Ocean. It is not only an important book for those of us who have a constant need to locate names, but it is another landmark for Map Librarianship.

It is to Lee Motteler's credit that he undertook this difficult task of updating the late Edwin H. Bryan's work. Bryan, longtime director of the Pacific Scientific Information Center at the Bishop Museum, [see his obituary in the Nov. 1986 WAML Information Bulletin], produced Guide to Pacific Islands in 1960, and its revised edition with a new title Guide to Islands in the Tropical Pacific in 1972. Bryan hired Motteler [both long-time Members of WAML] with the hope that Motteler would continue the projects that he began during his lifetime of research and publishing. A monumental task, but with a solid base upon which to build, Motteler has produced an entirely new and updated version with better graphics and text design.

The 1972 Guide included only 1,700 names. The present work includes about 6,100 names, including over 4,500 variant names. Upon the acquisition of this guide, one would profit from an immediate study of the Introduction, Guide to Sectional Maps, Political Guide to Names, and the introduction to the Index to Names. Nearly every section includes "Special Notes" to provide information specific to an island or group. All will provide clues to assist the reader in the competent use of this reference work.

The geographical scope encompasses the oceanic Pacific between the Tropics on the north and south, the Americas on the east, and west to (but not including) Indonesia and the Philippines. Other exceptions are the islands off the south coast of Papua New Guinea and Australia's Coral Sea Islands Territory, New Zealand and its off-shore islands, and off-shore islands of the Americas. There are certain inclusions, designed to make the guide more unified politically and socially: the Austral Islands (part of French Polynesia), the Pitcairn Islands; and the

southeast-Pacific Chilean Islands.

Motteler has provided dates of changes up to about one year ago. The text cites the source of data, to wit: Section W (Federated States of Micronesia) indicates that the "U.S. Trust Territory of the Pacific Islands: 'Compact of Free Association' [was] signed into law on January 14, 1986"; and of course, name changes, e.g.: "X. BELAU (Palau) (U.S. Trust Territory of the Pacific Islands: 'Compact of Free Association' approved by Belau in plebiscite on February 21, 1986)." Another example of a useful cross reference is in section B (U.S. - Administered Islands in the Central Pacific); it is noted that "in addition to the 3 Line Islands administered by the U.S. listed here, there are 8 others in the group administered by Kiribati (see C-III below)."

The arrangement is well chosen: typically the map that accompanies each list (by group of islands) is on the facing page- the most convenient location. Each map provides adequate detail as well as latitude and longitude. Having all the atolls, islands, and reefs depicted on the maps is a real bonus not readily found. Also, the maps will serve well as 8" x 11.5" sketch maps so often asked for in a map library.

**Pacific Island Names** is divided into <u>two</u> primary sections: **Political Guide**, with names grouped by political identification (self-governing or administered). There are, conveniently for an alphabetical arrangement, 26 political entities, A through Z. The second section is the **Index to Names** in alphabetical order, all variant names are included in the single list.

"Standard Names" are "those officially approved and recommended [by the compiler] for current use ... in accord with the most recent authoritative sources." Special Notes help distinguish when "unofficial designations" are used or when appellations are "following the practice of using conventional English names adopted for this guide ...." Motteler provides his Sources, which most often include the series of U.S. Board on Geographic Names' [USBGN] Official Standard Names Gazetteers, as well as those of other official agencies. One of the frequently cited sources is the Federal Information Processing Standards Publication 10-3 ("FIPS") (U.S. Department of Commerce, 1984): **Countries, dependencies, areas of special sovereignty, and their principal administrative divisions.** However, if there is fault to be found, I suggest that this is the weakness of Motteler's compilation. The authority for **each** name is not identified; it could be any one of the cited sources. While most users of this book will not need to know the precise source of who established the "Standard", users who must have documented citations for use of a particular name (e.g., catalogers who assign place subject headings) may not choose to rely upon this work as "the authority". It may take confirmation of these names by the U.S. Board on Geographic Names before they can be used per se.

Nevertheless, in cases where there is a conflict in usage and

absence of official authority, it is, in my opinion, absolutely valid for an "authority" to step forward with a compilation based on decades of research, documentation of local use, and consultation (both published and personal correspondence). Without question Motteler has pulled together the most authoritative sources and has provided "the standard" reference work for the widest possible range of users, certainly for general use in map rooms throughout the world.

Only one format problem is apparent. Motteler's usual format for the list of names in each Political Guide section is in columns, one left and one right. Between groups of names is a full-line space across both columns. This typical format makes the visual distinctions clear. However, Group W (Federated States of Micronesia, on page 57) has so many names squeezed together (in a desire to fit them all on one page) that the final product leads to visual confusion. I had difficulty immediately perceiving the correct associations; each of the four States (Kosrae, Pohnpei, Truk, and Yap) needs a distinct break between the names so that one's eye will travel to the adjoining right column for the continuation of the names associated with each State.

Use of this gazetteer is straightforward. Once found in the Index to Names (as explained on page 63) a name is either shown as the preferred name, which appears in CAPS, or cited to the preferred name. The preferred name is then found in the Political Guide section; e.g., MAUI A-II-6. ["Maui" is the standard name, "A" is the alpha code for Hawai'i, "II" is the numeric code for Hawaiian Islands, and "6" is the number for the island of Maui.] With the code information in mind one can quickly turn to Section A (page 15), find group II (as distinguished from I: Northwestern Hawaiian Islands), and locate the sixth name in the column, Maui. On the same page appear two maps, one for each named group, on which is found the location of the desired island name.

For an example of the usefulness of this gazetteer, I need only to cite my recent experience of trying to cross-check my knowledge of French overseas territories in Polynesia. I intend to update my 20-years-old holdings of IGN coverage. I found no adequate source to assist in verifying that I had coverage of some islands. Here, at last, is one convenient and adequate source. The political arrangement of this gazetteer is ideal. Had this reference tool been available to me earlier, I could have reduced my insecurity to a minimum, well worth the price of acquiring this work.

I recommend this book for acquisition by **all libraries.** Every reference librarian for whatever discipline should have this available as the **first source** to consult for Pacific place names. It should become **the standard**, and de facto **it is!**

**Stanley D. Stevens**
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Santa Cruz

**THE WORLD Centered on the San Francisco Bay Area.** Prepared by CartoGraphics, San Francisco; text by Julia Cheever. San Francisco: AZED Productions, 1986. $7.95 + $2.50 p&h. col. map 91.5 x 67.5 cm. 1:63,360,000 (1" = 1000 miles). Azimuthal equidistant projection.

AZED Productions of San Francisco has just published a new world map of broad educational and general use. The map's sub-title is "Global Orientation Chart". The map places San Francisco at the center of the world, similar to several recent maps published by the U.S. Central Intelligence Agency, and shows selected other places at their true distance [statute miles] and direction from San Francisco.

In addition to the 150 cities named on the map, the map identifies San Francisco's antipode, the most distant point from it. The time difference in hours from San Francisco is indicated, with city names being color-coded to match their respective time zones.

The cities shown represent those urban centers that are most prominent in contemporary affairs, travel, and telecommunications. Five criterion were used to select these prominent places: (1) the most populous urban areas of the world; (2) capital of populous countries; (3) air traffic and tourist centers; (4) international weather forecast points; and, (5) geographically unique places.

The text at the bottom of the map includes a 2,500 word essay by Julia Cheever describing how the places were selected, the projection used, the time zones, and other features of the map. For an example, she explains how the line of magnetic variation depicted on the map may be used in conjunction with a compass to align one's location with other global locations.

The map is printed on coated paper in colors of blue, red, brown, and magenta. It is quite attractive and recommended for a wide variety of uses (in addition to one for my library, my wife needs one for her travel business). AZED, an enterprise of William Blackwell, plans to produce similar maps centered on other cities in the future.

The map may be ordered from AZED Productions, 451 Pala Avenue, Piedmont, California 94611. The map is mailed, rolled, in a tube. California orders should add appropriate State sales tax. Special prices are available for volume orders.

**Stanley D. Stevens**
University of California
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1988

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July 9-14
New Orleans

American Library Association, Map & Geography Round Table. CALL FOR PAPERS

Round Table sessions will focus on the following:

1. Governmentally issued maps as rare items: what they are, how to handle them, etc. Papers on the U.S. serial set are especially welcome.
2. Mapping the national parks: papers presented will be published as a MAGERT Occasional Paper.
3. Technology
4. History of cartography

Send paper proposals to: Mary Larsgaard
ALA MAGERT Program Chair
Deadline is 8-1-87. Library or phone:
Colorado School of Mines (303/273-3697)
Golden, CO 80401

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## CONFERENCES/MEETINGS - SOME PAST, SOME FUTURE

**1987**

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|---|---|
| Mar. 5-7<br>Las Vegas | California Land Surveyors Association Joint Conference. Contact: CLSA/NALS (707/578-4406) |
| Mar. 6<br>Irvine | URISA Southern California Chapter one-day conf.: Geographic Information Systems; New Techniques in Problem Solving. Contact: Glen Johnson, LA Dept City Planning, (213/485-3472), or Wayne Bannister Los Angeles County Data Processing Dept. (213/940-2201. To be held at the Irvine Marriott. $75 URISA members, $85 non-members. |
| Mar. 22-26<br>Philadelphia | Computer Graphics '87. National Computer Graphics Association's 8th Annual Conference. Contact: NCGA, 2722 Merrilee Drive, Suite 200, Fairfax, VA 22031 |
| Mar. 24-26<br>Los Angeles | Optical Information Systems West '87. Contact: Conference Management Corporation, P.O. Box 4990 Norwalk, CT 06856-4990 (203/852-0500) Includes: "U.S. Geological Survey Digital Line Map Information on a CD-ROM Workstation: An End-User's Perspective," by Eric Keller, proj. mgr., GEOVISION. |
| Mar. 29-Apr. 3<br>Baltimore | ASPRS/ACSM 87. Contact: Tom Collins, 9606 King George Drive, Manassas, VA 22110 (301/227-4027) |
| Mar. 30-Apr. 2<br>Baltimore | AutoCarto 8 - Eighth International Symposium on Automation in Cartography. Contact: Nicholas R. Chrisman, 3809 Nakoma Rd., Madison, WI 53711 (608/263-5534) |

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| Apr. 22-26<br>Portland, OR | Eighty-Third Annual Meeting of the Association of American Geographers. Contact: AAG, 1710 16th Street N.W., Washington, D.C. 20009 |

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| Apr. 23-24<br>Provo, Utah | Western Association of Map Libraries<br>Spring Meeting. Riley Moffat, Host.<br>Brigham Young University<br><br>See Agenda in last issue. |

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| Apr. 27-30<br>New York | Association for Information and Image Management Annual Conference. Contact: AIIM, Department of Meetings & Expositions, 1100 Wayne Ave., Suite # 1100, Silver Spring, MD 20910 (301/587-8202). |

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| May 5-7<br>Sioux Falls | Pecora XI. "Satellite Remote Sensing: Current Programs and a Look to the Future." Contact: Pecora XI Symposium, EROS Data Center, Sioux Falls, SD 57198. |

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| May 16-23<br>Gabrovo,<br>Bulgaria | 8th International "Brennale of Humor and Satire." Contact: House of Humor and Satire, P.O. Box 104, BG -5300 Gabrovo, Bulgaria.<br>(serious inquiries only!) |

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| May 17-23<br>Rochester | 40th Annual Conference of the Society of Photographic Scientists and Engineers, the Society for Imaging Science and Technology. Contact: Fred Guevara, Eastman Kodak Co., Graphics Imaging Systems Division, 343 State St. 3/10, Rochester, NY 14650 (716/724-6478). |

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| June 7-11<br>Anaheim | Special Libraries Association<br>Geography & Map Division. Annual Conference. Contact: Christopher Baruth, Chair-Elect, at AGS Collection, Univ. Wisc.-Milwaukee, toll free: (800/558-8993).<br>WAML members have been accorded SLA member registration rates. WAML members will be receiving registration materials from SLA headquarters. |

## SLA GEOGRAPHY & MAP DIVISION PROGRAM

Anaheim, California, June 7-11, 1987

Sunday, June 7

| | | |
|---|---|---|
| 1:00 p.m. - 2:30 p.m. | | Executive Board Meeting - Open Session |
| 2:30 - 4:00 | | Executive Board Meeting - Exec Session |
| 8:00 - 12:00 midn | | Open House |

Monday, June 8

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| 8:00 a.m. - 9:00 a.m. | | Committee Reports |
| 9:15 - 10:15 | | Representative Reports |
| 10:30 - 12:00 noon | | CUAC Reports |
| 1:30 p.m. - 4:30 p.m. | | Map Conservation Workshop, conducted by: Douglas B. Stone, Fulkerstone Paper Res. |
| 6:30 - 8:30 | | Division Business Meeting |
| 9:00 - 12:00 midn | | Open House |

Tuesday, June 9 - <u>UCLA/Clark Library Field Trip</u>

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| 8:00 a.m. - | Bus leaves Anaheim for UCLA - Cultural tour en route |
| 10:00 - 11:50 | Panel at UCLA: "Latin American Map Acq." Moderator: Diana Rivera, Mich. St. Univ. Speakers: Carlos Hagen, UCLA Ludwig Lauerhass, UCLA Helenjane Armstrong, Univ. of Florida Stephen Mullin, Mexico Maps dealer |
| 12:00 a.m. - 1:30 p.m. | Lunch and program at UCLA Faculty Center "California Map Collections", Speaker: Norman J.W. Thrower, UCLA |
| 1:30 - 3:00 | Tour of UCLA map collections & Geog. Dept |
| 3:00 | Bus leaves for Clark Library |
| 3:30 - 5:00 | Tour & Reception, Clark Library |
| 5:00 | Bus leaves for Anaheim |

Wednesday, June 10

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| 11:30 a.m. - 1:00 p.m. | Luncheon and program "Cartography & the American Geographical Society", speaker: Roman Drazniowsky, AGS Collection. |
| 1:30 - 2:45 | Geo. & Map Div. Contributed Papers Sess. Moderator: Joanne Hansen, E. Mich. Univ. Speakers: Jim Walsh, Tufts University, "John C. Fremont and the Mapping of California and the West: the Second & Third Expeditions." Muriel Strickland, San Diego State Univ., "Who Shows What: A Comparative Study of Information Included on National Large-scale Topographic Survey Maps." |

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| | | William A. Rehrig, Applied Geological Studies, Inc., "New 1:1,000,000 scale Tectono-stratigraphic Map of the Western United States." |
| 3:00 | 4:30 | Computers in map collections- round table |

Thursday, June 11 - Santa Barbara Field Trip

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| 7:30 a.m. | Bus leaves for Santa Barbara |
| 10:00 a.m. - 4:00 p.m. | Field trip to U.C. Santa Barbara Remote Sensing Lab, and the Eosat facility in Santa Barbara. Tour will also cover cultural and physical points of interest enroute. |
| 4:00 | Bus leaves for Anaheim |

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June 22-25 Eleventh Canadian Symposium on Remote Sensing.
Waterloo, Ont. Contact: Dr. Ellsworth F. LeDrew, Dept. Geography University of Waterloo, Waterloo, Ontario, Canada N2L 3G1 (519/885-1211, ext. 2068)

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June 27-Jul 2 American Libraries Association
San Francisco Map & Geography Round Table. Annual Conference.

[All WAML Members are invited to participate in MAGERT activities during the ALA San Francisco meetings and excursions, to the extent that vacancies are available, of course.]

The **Hotel Cecil** (545 Post Street, San Francisco) will be MAGERT's headquarters from June 25th to June 30th. It is 2 blocks west of Union Square and a few flocks north (uphill...) from the S.F. Hilton.

The Cecil is a modest but recently redone hotel which usually caters to international tour groups rather than conventioneers -- it should have an interesting atmosphere. The number of rooms available is limited - please contact me as soon as possible.

The rooms currently available are 2-room connecting suites with twin beds in one room and a double bed in the other. If we fill all the suites, we will get a group rate of $68 for 3 or $75 for 4. If at all possible, please make arrangements for roommates and contact me in groups of 2 and 4. Specify double or twin, but bear in mind that there may not be enough twins available for everyone. Send a deposit of $25 to me (made out to the Hotel Cecil) by April 15th to confirm your reservation:

**LaVonne Jacobsen** (415) 469-1557 (work: SF State Univ Lib)
146 Lisbon St. (415) 585-3674 (home, with answering machine)
San Francisco, CA 94112

## PRECONFERENCE WORKSHOP

June 25, Thurs. San Francisco State University.

This is a jointly sponsored workshop of the Map and Geography Round Table and the Government Documents Round Table, specifically designed for government document librarians who are currently dealing with depository maps or contemplating selecting maps for their collections. It is the mission of the workshop to demonstrate the significance of cartographic resources in libraries, and familiarize participants with the many map products available through GPO, how these products are used, interpreted, accessed, stored and preserved.

The workshop will be presented by David A. Cobb, Map Librarian, Map and Geography Library, University of Illinois, and Donna P. Koepp, Government Documents and Map Librarian, University of Kansas.

Please Register by May 15, 1987, by sending your name, address, and a check for $25.00 made payable to MAGERT, to Donna P. Koepp, Government Documents and Map Library, Spencer Research Library, University of Kansas, Lawrence, KS 66045. Registration will be limited to 35.

## ALA/MAGERT
## SAN FRANCISCO ANNUAL CONFERENCE

### SATURDAY, 27 JUNE

| | |
|---|---|
| 9:30 a.m. - 12:30 p.m. | GODORT Federal Documents Task Force/ Cartographic Users Advisory Task Force Update |
| 2:00 - 4:00 | Program: History of Cartography<br>"Journey to the Holy Land: the World's First Travel Book": David A. Cobb<br>"A Buccaneer's Atlas, a Story of Basel Ring Rose": Norman J.W. Thrower<br>"The Dutch in Brazil: a History": Nancy Vick |
| 5:00 - 7:00 | Reception hosted by W. Graham Arader III |

### SUNDAY, 28 JUNE

| | |
|---|---|
| 8:00 a.m. - 9:00 a.m. | ALA Fun Run/Walk |
| 11:30 - 12:30 | Cartographic Statistics Committee |
| 11:30 - 12:30 | Cataloging and Classification Committee |
| 11:30 - 12:30 | Education Committee |
| 2:00 p.m. - 4:00 p.m. | Program: Mexican & Latin American Map Acquisitions. Panelists:<br>Bill Hunt; Steve Mullin; Bill Stewart |

| | | |
|---|---|---|
| 4:30 | - 6:30 | Map Online Users Committee |
| 8:00 | - 10:00 | New Orleans Conference Planning Committee |

MONDAY, 29 JUNE

| | | |
|---|---|---|
| 8:00 a.m. | - 9:00 a.m. | Executive Board |
| 9:30 | - 11:00 | Annual Business/Membership Meeting I |
| 11:30 | - 12:30 | Publications Committee |
| 2:00 p.m. | - 4:00 p.m. | Program: Mapping Technology/Remote Sen. "Interpreting Nautical Charts": James A. Coombs; "Disk Revolution at USGS": Gary North. |
| 4:30 | - 5:30 | Publications Committee |
| 4:30 | - 5:30 | RTSD OCS/MAGERT Map Cataloging Ad Hoc Discussion Group: Aerial Photography. Presented by HelenJane Armstrong |
| 6:30 | - 8:00 | Dinner Program at New Pisa Ital. Rest. Don Herron of Dashiele Hammett Tours is the tentative speaker. |

TUESDAY, 30 JUNE

| | | |
|---|---|---|
| 9:30 a.m. | - 11:00 a.m. | Annual Business/Membership Meeting II |
| 11:30 | - 12:30 | Luncheon & debriefing (everyone welcome) |
| 2:00 p.m. | - 4:00 p.m. | Walking Tour of San Francisco. Watch for details in MAGERT base line |
| 4:30 | - 5:30 | Membership Committee |

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July 1 ********* WINE COUNTRY TOUR *********

The Map and Geography Round Table is sponsoring a tour of the California wine country on Wednesday, July 1, 1987, following the ALA Annual Meeting in San Francisco.

The bus tour will leave the Cecil Hotel (headquarters for MAGERT) at 9:00 a.m. and will travel north across the Golden Gate Bridge and through the scenic Marin County headlands to the beautiful tapestry of the wine country, one of the premiere wine producing regions in the country.

Crossing fabled hills, valleys, and lush vineyards, the group will first stop at the Sebastiani Winery, one of the largest and oldest family-owned wineries in California. Following a private guided tour of the sprawling winery, and an introduction to the art and science of winemaking, the group will enjoy a selection of Sebastiani's fine wines in the tasting room.

After time to explore the shops along the historic Sonoma Plaza, the group will then have a memorable lunch at the exclusive Sonoma Mission Inn.

The tour continues to the Inglenook Winery, a classic stone chateau constructed over a century ago in a wooded "nook" of the Napa Valley. The tour of the winery includes an audio visual presentation as well as a visit to the cellars, vineyards, and wine aging facility. Following the tour, members of the group will enjoy evaluation and tasting of a variety of Inglenook's award-winning wines.

The group will then return to San Francisco, with arrival at about 5:15 p.m.

Space is limited to 46 persons. To sign up for the tour, please send your name, address, phone number, and a check for $38.00 made payable to Stanley D. Stevens, to:

MAGERT
Wine Country Tour
Stanley D. Stevens
231 13th Ave.
Santa Cruz, CA 96062

SIGN UP DEADLINE FOR THE TOUR IS MAY 15, 1987.

Phone Stan at (408) 429-2364 or (475) 475-9172 for information.

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| | |
|---|---|
| July 6-7<br>Madison, Wisc. | XII National Surveying Teachers Conference, University of Wisconsin. Contact: Paul R. Wolf, Department of Civil and Environmental Engineering Room 1204 Engineering Bldg., University of Wisconsin, Madison, WI 53706 (608/262-1978). |

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|---|---|
| Aug. 16-23<br>Brighton, UK | International Federation of Library Associations Map & Geography Sub Section 53rd Council and General Conference. Contact: Robb Palmer, Library Association, 7 Ridgmount St. London, WCIE 7AE, England. |

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|---|---|
| Aug. 17-Sep. 1<br>Montreal | U.N. Group of Experts on Geographical Names, 13th Session. Contact: Max C. deHenseler, DC-1-724, United Nations, NY 10017 (212/754-8567). |

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|---|---|
| Aug. 18-31<br>Montreal | 5th U.N. Conference on the Standardization of Geographic Names. [use contact above] |

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| | |
|---|---|
| Aug. 24-28<br>San Francisco | 3rd International Congress on Advances in Non-Impact Printing Technologies. Contact: Society of Photographic Scientists & Engineers, 7003 Kilworth Lane, Springfield, VA 22151 (703/642-9090) |

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| | |
|---|---|
| Sept. 10-12<br>Reno, Nevada | Western Association of Map Libraries<br>**20th Anniversary Meeting**<br>Linda Newman, Host.<br>University of Nevada, Reno.<br>College Inn (housing & meetings)<br>(Annual Reno Balloon Races Sept. 11-13) |

## WESTERN ASSOCIATION OF MAP LIBRARIES (WAML)
## 20TH ANNIVERSARY MEETING -- SEPTEMBER 10-12, 1987
## RENO, NEVADA - UNIVERSITY OF NEVADA-RENO

This 20th Anniversary Meeting will be held in Reno at the University of Nevada-Reno, College Inn. The program includes papers on relevant computer software programs, map collection internship programs, and the results of a survey on map library outreach and user education. The formal program concludes with a banquet to roast/toast the organization.

A field trip to Virginia City and Lake Tahoe is planned for Saturday along with other events and speakers for this special meeting.

Along with the WAML schedule, Reno will be having its annual Balloon Races that same weekend, Friday-Sunday. Over 100 balloons lift off at daybreak just one mile north of the College Inn, site of WAML's meetings. This is a huge event and will effect your ability to make plane and hotel reservations. Although registration materials will be mailed to the membership in June, it is not too soon to make plans to attend.

### PRELIMINARY AGENDA
### Friday, September 11, 1987

### 20 Years of Map Librarianship

Moderator: **Mary Ansari**, Mines Librarian, UNR

| | |
|---|---|
| 9:00- 9:30 | Late Registration and Coffee |
| 9:30- 9:45 | Opening Remarks by Moderator |
| 9:45-10:15 | Keynote Speaker: **Mary Larsgaard** |
| 10:15-10:45 | Paper I: **Julia Gelfand**, U. of Calif. Irvine<br>"Computer software for the map librarian" |

10:45-11:15 Break
11:15-11:45 Paper II: **Susanne Villar**, Central Washington Univ.
"Survey of map library outreach & user ed."
11:45- 1:15 Lunch - College Inn
1:15- 1:45 Paper III: **Steven Hiller**, Univ. of Washington
"Mainstreaming of map libraries"
1:45- 2:15 Paper IV: **Muriel Strickland & Jim Minton**
Cal. State U. San Diego & U. of Arizona
"Map collection internship programs"
2:15- 2:45 Paper V: **Stan Stevens**, U. of Calif. Santa Cruz
"Personal reflections and perspectives"

The complete Agenda will appear in the June issue. Members will receive a pre-conference mailing for registration, etc.

HOST: **Linda Newman**, Map Librarian, University of Nevada-Reno,
Reno, NV 89557 (702/784-6596 - 8:30-2:00)

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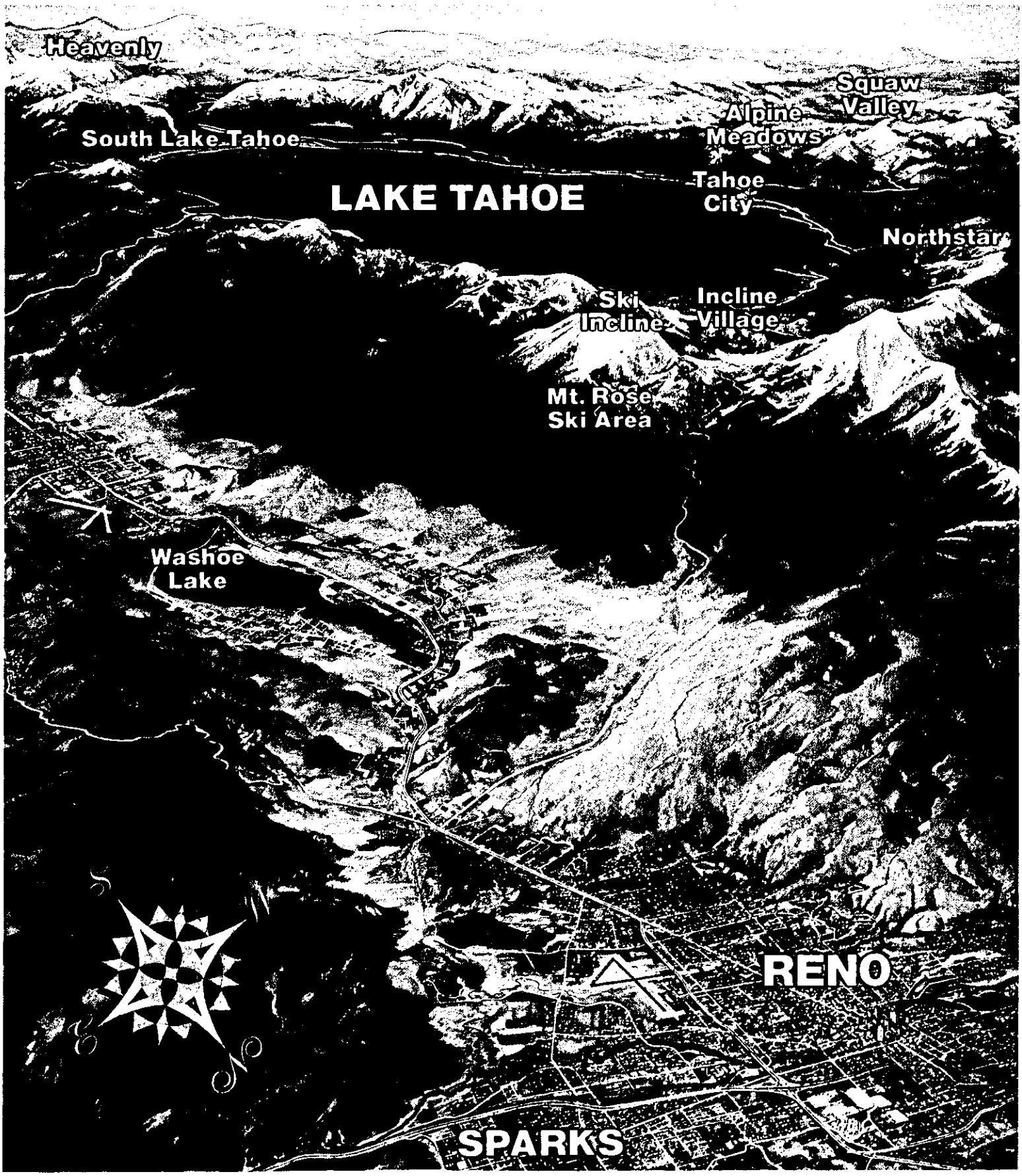
Heavenly
Squaw Valley
Alpine Meadows
South Lake Tahoe
LAKE TAHOE
Tahoe City
Northstar
Ski Incline
Incline Village
Mt. Rose Ski Area
Washoe Lake
RENO
SPARKS

## MicroCartography

Twenty-first in a Series by

**Larry Cruse**
Map Section C-075p
University Library
Univ. of California
La Jolla, CA 92093
(phone 619/452-3338)

Base Mapping of Europe on Microfiche

The Library of Congress Photoduplication Service has created microfiche masters of Central European mapping, including Poland, Greater Germany and the Austro-Hungarian Empire. WAML is obtaining copies of these fiche from which we will make inexpensive diazo duplicates. The silver originals from the Photoduplication Service are $3 each, while its charge for diazos is $2.

Given the thousands of sheets involved, the cost is impossibly high for the average map library (Poland $2506/$3759/WAML: $400; Germany $8000/$12,000/ WAML: $1200; Austria-Hungary $1504/$2256/WAML: $225).

Therefore, WAML is arranging to make inexpensive diazo duplicates this summer for about 30-cents each. We have already obtained our set of third generation silver masters and have produced sample fourth generation fiche, as well as a fifth generation photocopy from them. The sample included at the end of this column is actually a sixth generation copy; allowing for the losses inherent in our journal's printing, it may or may not reflect the source print's full capture of information from the original map.

We see this as an economical means of giving these valuable materials wider circulation than can be provided by LC, rationalizing that the libraries interested in WAML copies are not likely to purchase the third generation silver or diazos from LC anyway.

The sets include:

1. Wojskowy Instytut Geograficzny.
   [Poland] 1:100,000 193 - . Comprising 1253 fiche. Priced at $400, they include all editions of every sheet available.

2. Reichsamt fur Landesaufnahme.
   Karte des Deutschen Reiches. 1:100,000 Berlin, 186 - ca. 1940. Approximately 4,000 fiche, including every edition

of every sheet in the "Greater Germany" set. $1200.

3. Specialkarte der Osterreichisch - Ungarnischen Monarchics. [1:75,000] 1873-1889. Approximately 752 fiche. $225.

We will be making the diazo duplicates only once, at the beginning of the next fiscal year, in July and August, and shipping by early September. Because of the quantities involved, we will do the project in stages: Poland first, Germany second and the Austro- Hungarian Empire third.

If you would like to participate, fill-out the accompanying information to aid our planning. At present, we are facing the problem of converting the negative silver fiche in hand into positive diazo fiche. Since diazo copies direct (preserves sign), we may have some difficulty, but, I assume for now that everyone wants positive fiche, if possible.

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I would like to participate in the WAML Central European map microfiche project:

NAME: _____

INSTITUTION: _____

ADDRESS: _____

TELEPHONE CONTACT: _____

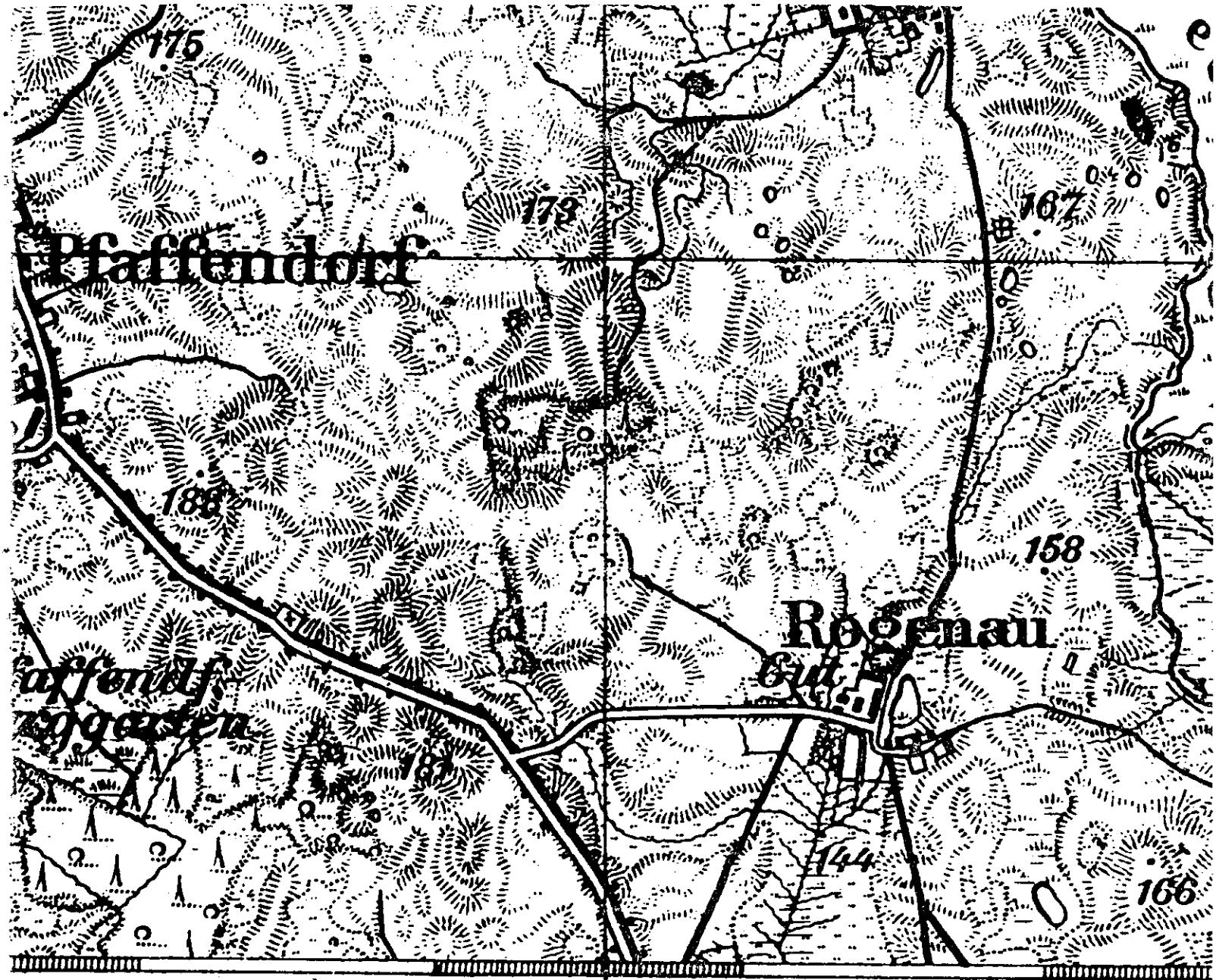
| | | | | |
|---|---|---|---|---|
| 1. Poland | 1253 fiche | $400 | _____ firm | _____ tentative |
| 2. Germ. Emp. | 4000 fiche | $1200 | _____ firm | _____ tentative |
| 3. Aus-Hun Em. | 752 fiche | $225 | _____ firm | _____ tentative |

Send this information to:

**Larry Cruse**

Map Section C-075p
University Library
Univ. of California
La Jolla, CA 92093

(phone 619/452-3338)

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# MINUTES

## WESTERN ASSOCIATION OF MAP LIBRARIES

## FALL MEETING, SEPTEMBER 11-12, 1986

## EUGENE, OREGON

EXECUTIVE COMMITTEE MEETING, Thursday, September 11, 1986

The major decisions made were:

1. Cartographic Users Advisory Committee representatives
   Riley Moffat was appointed by the President for a 3-year term to replace Stan Stevens whose term had expired. Linda Newman continues through 1987, a decision on a replacement will be made at the 1987 Spring Meeting.

2. Membership dues and registration fees for meetings
   Membership dues and Information Bulletin subscription rates will each go up $5.00 per year beginning Fiscal 1987-88. Registration fees which have been a sometimes inadequate $5.00 per meeting will now be flexible, based on host needs, but are not to exceed $15.00 without Executive Committee approval.

3. Information Bulletin
   The ad rate for a full page will be raised to $100.
   The Editor was authorized to appoint an Assistant Editor for Advertising.

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MEMBERSHIP BUSINESS MEETING, Friday, September 12, 1986

The meeting was called to order by President Rosanna Miller.

1. Secretary's Report
   Muriel Strickland outlined the actions taken at the Executive Committee Meeting (see separate report above).

2. Treasurer's Report
   Stan Stevens announced that Occasional Paper #10, Map Index to Topographic Quadrangles of the United States, 1882-1940 is ready for sale at $32.50. The sales status of earlier OPs was also given.
   The rise in Membership dues and Information Bulletin subscription rates was presented with the factors leading to the decision.
   Thus far the Treasurer has not worked from a prepared budget. He now plans to do so.

3. Information Bulletin
Editor Larry Cruse announced that there would be a Special Twentieth Anniversary Issue. He asked for suggestions, contributions, news of early members, and photographs.

4. Old Business
There was none.

5. New Business
Linda Newman gave news of MAGERT activities including the publication of their first Occasional Paper: Exploration and Mapping of the American West, Donna Koepp, editor.
Then as host for the Twentieth Anniversary Meeting to be held in Reno, September 11, 12, 1987, she outlined the program and activities planned.
Riley Moffat, host for the 1987 Spring Meeting to be held at Brigham Young University, Provo, Utah, outlined the program he has planned.
Larry Cruse gave updates and details of several microfilm projects in hand, proposed, or possible.

6. Announcements
Announcements were made concerning the current meeting.

A motion to adjourn was made by Linda Newman and seconded by Michael Noga.
The meeting adjourned.

**Muriel Strickland**
WAML Secretary

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## MILESTONES

Map Projections, the newsletter and acquisitions list of the University of Wyoming libraries' map collection suspended publication with Issues 21-24, March 1986 - March 1987, as **Jim Walsh** has accepted an appointment as Documents Librarian at Tufts Univ.

WAML member **Vlad Shkurkin** was keynote speaker at "The Mystery of Preservation" workshop sponsored by the Alaska Historical Society/ Museums Alaska Conference Homer '86, October 23, 1986.

**Riley Moffat** has left Brigham Young University's Provo campus for Brigham Young University's Hawaii Campus. He is Reference Librarian [BYU-HC Box 1966, Laie, HI 96762 808/293-3850].

## ANNOUNCEMENT OF PROFESSIONAL VACANCY

BRIGHAM YOUNG UNIVERSITY

| | |
|---|---|
| Position: | Subject Specialist for Cartography, Geography and Geology |
| Available: | May 1, 1987 |
| Description: | Faculty position in the Collection Development Division. Coordinates the selection of cartographic, geographic, and geologic materials for the library. Also provides reference and advanced research assistance to patrons in the use of these materials. Catalogs map collection and supervises maintenance and recommends repair and preservation decisions in consultation with the Preservation Department. Coordinates with faculty and colleagues on the development of the collection. Provides bibliographic instruction on the use of these materials. |
| Qualifications: | An M.L.S. degree from an ALA-accredited library school and a second masters degree in geography or geology is required. Strong background in cartographic studies is highly desirable. Ability to catalog maps according to AACRII and AACCM rules is required. Foreign language skills highly desirable. Ability to work well with people and good oral communication skills are required.<br><br>Must be willing to maintain the standards as taught by the Church of Jesus Christ of Latter-day Saints, including abstinence from alcoholic beverages, tobacco, tea & coffee. |
| Salary & Benefits: | Faculty status, generous insurance and retirement benefits. Salary range is $24,000 and up depending on qualifications. This is a twelve-month appointment with twenty-two days annual leave & additional professional time available. |
| Application Deadline: | March 15, 1987 |
| To Apply: | Send resume and names of three references to Patti Jo Findley, Personnel Officer, 3080 HBLL, Brigham Young University, Provo, UT 84602. |

# PUBLICATIONS of the WESTERN ASSOCIATION OF MAP LIBRARIES

**1973** *Catalogue of Sanborn atlases at California State University, Northridge* / by Gary W. Rees and Mary Hoeber. WAML Occasional Paper no. **1**. LC #73-5773; ISBN 0-939112-01-9 $4.00

**1976** *Union list of Sanborn fire insurance maps held by institutions in the United States and Canada, vol. 1, Alabama to Missouri* / by R. Philip Hoehn. WAML Occasional Paper no. **2**. LC #76-6129; ISBN 0-939112-02-7 $5.00

**1977** *Union list of Sanborn fire insurance maps held by institutions in the United States and Canada, vol. 2, Montana to Wyoming; Canada and Mexico* / by William S. Peterson-Hunt and Evelyn L. Woodruff; *with a supplement and corrigenda to volume 1*, by R. Philip Hoehn. WAML Occasional Paper no. **3**. LC #76-2129 Rev.; ISBN 0-939112-03-5 $6.00

Occasional Papers **2** and **3** together: ISBN 0-939112-04-3 $10.00

**1978** *Index to early twentieth-century city plans appearing in guidebooks: Baedeker, Muirhead-Blue Guides, Murray, I.J.G.R., etc., plus selected other works to provide worldwide coverage of over 2,000 plans to over 1,200 communities, found in 74 guidebooks* / by Harold M. Otness. WAML Occasional Paper no. **4**. LC #78-15094; ISBN 0-939112-05-1 $6.00

**1978** *The maps of Fiji: a selective and annotated cartobibliography* / by Mason S. Green. WAML Occasional Paper no. **5**. LC #78-24066; ISBN 0-939112-06-X $4.00

**1980** *Index to nineteenth-century city plans appearing in guidebooks: Baedeker, Murray, Joanne, Black, Appleton, Meyer, plus selected other works to provide coverage of over 1,800 plans to nearly 600 communities, found in 164 guidebooks* / by Harold M. Otness. WAML Occasional Paper no. **7**. LC #80-24483; ISBN 0-939112-08-6 $6.00

**1981** *Microcartography: applications for archives and libraries* / edited by Larry Cruse, with the assistance of Sylvia B. Warren. WAML Occasional Paper no. **6**. LC #81-19718; ISBN 0-939112-07-8 $20.00

**1981** *Printed maps of Utah to 1900; an annotated cartobibliography* / by Riley Moore Moffat. WAML Occasional Paper no. **8**. LC #81-659; ISBN 0-939112-09-4 $10.00

**1983** *Index to the* ***Information Bulletin*** (Volumes 1-10, 1969-1979) *of the Western Association of Map Libraries* / compiled by Frances M. Woodward. WAML Occasional Paper no. **9**. LC #83-6880; ISBN 0-939112-10-8 (microfiche edition) $5.00

**1984** *Nevada Directory of Maps and Aerial Photo Resources* / by Mary B. Ansari and Linda P. Newman. WAML Occasional Paper No. **11**. LC #83-26068; ISBN 0-939112-13-2 (pbk.) $15.00

**1985** *Map Index to Topographic Quadrangles of the United States, 1882-1940* / by Riley Moore Moffat. WAML Occasional Paper No. **10**. LC #84-21984; ISBN 0-939112-12-4.

## AVAILABILITY

Order any item or Standing Order for series from:

**Western Association of Map Libraries**
c/o Stanley D. Stevens, WAML Treasurer
University Library, University of California
Santa Cruz, CA 95064 Phone: (408) 429-2364

California residents add tax @ 6.5%. Prepaid orders mailed free.