

information BULLETIN

Volume 23 Number 1

November 1991



Western Association of Map Libraries

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

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FROM THE EDITOR

By the time this appears, we'll have already had an informative and entertaining conference in Bellingham - I hope I'll have seen you there! Preliminary information on the Spring Conference in Chico appears herein; thanks to **Joe Crotts** for meeting the 11/91 *IB* deadline of September 15 with this info!

So far, the Association of Earth Science Editors newsletter, *Blueline*, has proved to be useful reading, as much for informing me as to what editors of

newsletters for state geological surveys are doing as for sheerly editorial information - including one point, "A journal and its editor can now be sued for language in a letter to the editor," which I'd suspected might be true.

Welcome to the *IB*'s new Book Review Editor, **Greg Armento** (California State University, Long Beach)! Greg has corralled a good covey (or whatever a group of book reviews is called) for you.

§

Information Bulletin Advertising Rates

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April 15

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WESTERN ASSOCIATION OF MAP LIBRARIES

1992 SPRING MEETING
APRIL 30 — MAY 2, 1992

California State University, Chico
CHICO, CALIFORNIA

PRELIMINARY INFORMATION

Location: California State University, Chico
Hotel: Holiday Inn (rooms available now - mention WAML) 916-345-2491
Date: April 30-May 1 (field trip May 2), 1992

HOSTS:	Joe	Meriam Library-Maps	Brenda	Butte County Library-Chico Br.
	Crotts:	CSU-Chico	Crotts:	1108 Sherman Ave.
		Chico, CA 95929		Chico, CA 95926
		916-898-6675		916-891-2758
		e-mail: JCROTTS@CALSTATE		891-2723

Theme: *"The Other California"* (tentative)

Speakers: To be announced.

Dinner: *Sierra Nevada Brewery*, including brewery tour. This is a genuinely locally run operation, with only one plant located here in Chico, and is indicative of the light industry that's finding its way to the North Valley.

Coffee Break *Bidwell Mansion*, adjacent to the campus, is the frontier's version of Antebellum culture and architecture. The home sits just across the creek and a few steps from the center of campus.

Field Trip: *Bidwell Park*, the 3000 acre grounds donated to the city of Chico by the General Bidwell, represents the 4th largest city park in the nation.

Oroville Dam, the 2nd largest earth filled dam in the world. Located 25 miles from Chico in the Sierra Nevadas, the dam impounds the Feather River, and provides water for drinking and agriculture from the Sacramento Valley to Southern California. Included will be a walk on the dam, visual and lecture presentation at the Oroville Dam visitor's center, and a tour into the dam at the hydroelectric generating plant.

Getting to Chico: Chico lies smack dab in the middle of the Sacramento Valley, 100 miles north of Sacramento and 70 miles south of Redding.

Car: If you're on or near the west coast, Chico is an easy destination. Whether it be Seattle or San Diego, just take I-5 and keep going until you see the signs for Chico, at the town of Orland. Once you exit I-5, you will immediately find yourself immersed in the "other California." Just continue on Hwy 32, and follow the signs some 23 miles to Chico. If you are east of the Sierras, you'll more than likely want to hook up to I-80, headed toward Sacramento-San Francisco. Take the Grass Valley turnoff, then follow the signs to Oroville and on to Chico. Truly a windy road with lots of mountain and rural scenery, this route is best tackled during daylight hours if one is unfamiliar with the area. At worst, you'll miss the Grass Valley exit and wind up in Sacramento. Then connect to either I-5 or Hwy 99 north.

Bus: The bus station closed recently. Then it reopened. Buses continued to stop at the closed station, so I'm told. I can't guarantee anything firm here. To be safe, purchase a round trip ticket.

Air: Chico is served by United Express and American Eagle (don't laugh). The "big" planes will deposit you at a San Francisco Bay Area airport. You'll transfer to a puddle jumper (12 seater) for the flight of your life into Chico. Do it in the daytime and see a different view of the "other" California. Don't worry, they're safe. Some even have a copilot. The Holiday Inn offers free shuttle to and from the airport.

Train: You gotta be serious. But if you are, it can be done. One train daily heading north (or I should say nightly) arrives and departs Chico around 1:15 AM. However, if you are coming from the north, there are two arrivals daily, at 9:15 AM and 3:30 PM. Either coming or going, you've got the 1 AM arrival or departure to contend with.

Lodging: The Holiday Inn is located along the primary commercial strip heading toward a shopping center district. Adjacent to it is a coffee shop (Denny's) and across the very busy boulevard is another (Perchos). The Inn is not located within walking distance to the campus, and a university bus will provide transportation to and from each day. Unfortunately downtown Chico has no "nice" lodging. The south end, within easy walking distance to the campus, has several truckers motels. Not really bad. Can be noisy. Pleasant walk through small town America to the campus, which borders the downtown's north side. If you're interested, and a bit adventuresome, you might try the Thunderbird or Econolodge.

WAML Election Results

WAML President Michael Noga
(UCLA Geology/Geophysics Library)
has announced the results of the 1991 Election
for Officers. The new officers join Herb Fox, Treasurer,
and Past-President Janet Collins on the Executive Committee
for the 1991-1992 Membership Year.

Vice-President: Jim O'Donnell
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WAML 25th Anniversary Meeting
in
Hawaii
 by
Riley Moffat

Preliminary Announcement

At the Bellingham meeting some tentative plans for WAML's 25th Anniversary meeting next year in Hawaii were proposed. The dates selected are from Wednesday **November 4**, to Saturday **November 7, 1992**.

The Executive Board will meet on Tuesday afternoon at BYU-Hawaii in Laie. Wednesday morning will be the WAML business meeting and sounding board. Wednesday afternoon and evening will be spent at the Polynesian Cultural Center including a traditional luau. Thursday will be spent at the University of Hawaii at Manoa in a paper session. We are working on a tour of the Institute for Geophysics as well as a WAML banquet.

On Friday morning we will fly to Hilo on the Big Island of Hawaii and drive to Hawaii Volcanoes National Park where we will be hosted by the U.S.G.S. Observatory who will give us a special tour of the volcano area. We hope to be able to stay at the Kilauea Military Camp overnight and continue our field trip by visiting the Kapoho and Xalapana areas which have been overrun by lava and possibly the observatory complex on the summit of Mauna Kea.

I will reserve a block of rooms at the Laniloa Lodge in Laie for Tuesday, Wednesday, and Thursday nights. Those who would be interested in group rates from the Mainland please contact Stan Stevens and his wife who are willing to try to put together a package from the West Coast. Also if anyone would like some ideas for activities before or after the conference they are welcome to contact me. Interested vendors should also contact me.

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**Index To Geologic Maps of Ohio
by USGS Topographic Quadrangle Name, 1883-1988**

Compiled by

Edward J. Hall
Map Library
Kent State University
Kent, Ohio

This index covers geologic maps of Ohio that were published in several series issued by the U.S. Geological Survey and state geological surveys; the only USGS maps that have been excluded are the L series (Land Use and Land Cover Maps). The index includes maps published by the Ohio Division of Geological Survey and also a few maps issued by the Indiana Geological Survey that contain important details of geologic maps of the state of Ohio.

This index has two sections. The first section lists small-scale geologic maps of the entire state or large portions of it, beginning with those of the entire state and continuing with those of regions, in either case in alphabetical order. The second section indexes geologic maps of Ohio that have scales of 1:125,000 or larger. This part is arranged in alphabetical order by USGS topographic quadrangle name.

The principal indexing unit is the 7.5' quadrangle name. Each entry includes the following elements: quadrangle name; a reference to the publication which contains a geologic map of part or all of the quadrangle; the scale of the geologic map; the coverage of the geologic map; and subject if the map is not a standard geologic map.

Abbreviations — Indexed Publications

U.S. Geological Survey publications:

B	Bulletin, 1883-
GF	Geologic Folio 1894-1945
GP	Geophysical Investigations Map, 1946-
GQ	Geologic Quadrangle Map, 1949-
HA	Hydrologic Investigations Atlases, 1954-
I	Miscellaneous Geologic Investigations Map, 1955-
MF	Miscellaneous Field Studies Map, 1951-
OF	Open-File Report (only 1974- included)
OM	Oil and Gas Investigations, 1943-
P	Professional Paper, 1902-
W	Water-Supply Paper, 1896-

Ohio Dept. of Natural Resources, Division of Geological Survey:

OFRI	Open File Reports 1954-
OJS	Ohio Journal of Science
OGS	Map Map (Date) 1947-
OB	Bulletins, 1903-
ORI	Reports of Investigations, 1947-
OBG	Open File-Bedrock Geologic Maps 1990-

Indiana Geological Survey:

IGS RG Regional Geologic Map (1 degree x 2 degrees)

Coverage and subject abbreviations:

Bed.	Bedrock geology
Complete	Quarter is completely covered
c/w	complete with
Geol.	Geologic / Geological
Glac.	Glacial geology
Min. res.	Mineral resources
NE	northeast quarter
NW	northwest quarter
S&G	Sand and gravel
SE	southeast quarter
Surf.	Surficial geology
Slight	A little of quarter is covered
SW	southwest quarter

Section 1: Small-Scale Geologic Maps of Ohio

Geologic Map of Ohio, comp. by J.A. Bownocker. 1:500,000.

Ohio Geological Survey, 1920. Reprint 1929. Rev. ed. 1947. Reprint 1965, 1981.

Aeromagnetic Maps of Ohio (Preliminary)

Northern Ohio OF 82-0191 1:250,000

Southern Ohio OF 83-0059 1:250,000

Glacial Map of Ohio

I-316 1:500,000

MF-1862 1:500,000

Gravity Maps of Ohio

GP-962 1:500,000

GP-963 1:1,000,000

GP-0967 1:1,000,000

Magnetic Map of Ohio

GP-961 (Residual total intensity) 1:500,000

Mineral Resources Maps of Ohio

GP-966 1:1,000,000

GP-968 Aerial radiometric color contour maps of surface concentrations of uranium, potassium, and thorium in Ohio. 1:500,000.

Map of Ohio Seismicity

MF-1975 (1142 superseded) 1:1,000,000

Map of Ohio Water Resources

HA-366 1:500,000

REGIONAL GEOLOGIC MAPS

Columbus-Dayton, Ohio & Indiana

Aeromagnetic GP-491 1:250,000
Aeroradioactivity GP-524 1:250,000

Eastern Ohio, Western Pennsylvania, W.VA., West, Md.

Aeroradioactivity GP-445 1:250,000
Geology OM-69 1:1,013,760

Eastern Ohio, Pitt. Area, W.VA. & Md.

Aeroradioactivity GP-555 1:250,000

Findlay and vicinity GP-500 1:125,000 Complete. Aeromagnetic.

Fostoria, Ohio

Pleistocene, complete OJS-42 1:250,000

Northern Ohio

Geology OM-39 1:190,080
OM-99 1:190,080

Northeastern Ohio

Glacial geology B-68 1:250,000
Geology OM-49 1:190,080
Hydrogeology HA-341 1:250,000
HA-494 1:500,000
Seismicity OF 86-0356 (Preliminary isoseismal)

Southeastern Ohio

Geology OM-5 1:190,080
OM-09 1:190,080
OM-29 1:190,080
OM-69 1:190,000
OM-79 1:190,080
OM-89 1:190,080

Western Ohio & East. Indiana

Geologic RGM5 1:250,000 1971
RGM7 1:250,000 1972
RGM8 1:250,000 1972

For information on the availability and prices of maps, write to:

- a. Department of Natural Resources, Division of Geological Survey, Fountain Square Building B, Columbus, Ohio 43224. OR
- b. Indiana Geological Survey, Dept. of Natural Resources, 611 North Walnut Grove, Bloomington, IN 47405.
- c. U.S. Geological Survey, Map Distribution, Federal Center, Box 25286, Denver CO 80225

Section 2: Large-Scale Geologic Maps of Ohio

<u>Quad Name</u>	<u>Publication</u>	<u>Scale Coverage</u>
<u>Addyston</u>	<u>ORI-8324k</u>	<u>Complete, bed.</u>
	<u>OB-19</u>	<u>Complete</u>
<u>Akron 15'</u>		<u>62k See Akron West.</u>
		<u>West Richfield, Peninsula.</u>
		<u>Wadsworth.</u>

<u>Quad Name</u>	<u>Publication</u>	<u>Scale Coverage</u>
<u>Akron East</u>	<u>ORI-98</u>	<u>62k Complete.</u>
	<u>ORI-109</u>	<u>62k 3/4 NW,SW, surf.</u>
	<u>ORI-114</u>	<u>62k 3/4 NW,SW, S&G.</u>
	<u>ORI-123</u>	<u>62k 3/4 NW,SW, glac.</u>
		<u>c/w OB-68.</u>
	<u>ORI-126</u>	<u>62k 3/4 NW,SW, S&G.</u>
<u>Akron West</u>	<u>ORI-98</u>	<u>62k Complete, glac.</u>
	<u>ORI-109</u>	<u>62k Complete, surf.</u>
	<u>ORI-123</u>	<u>62k Complete, glac.</u>
<u>Albany</u>	<u>OB-57</u>	<u>62k 1/2 NE,NW, min.res., geol.</u>
<u>Alexandria 15'</u>		<u>62k See New Richmond.</u>
<u>Alfred</u>	<u>OB-57</u>	<u>62k 1\2 NE,NW,min. res.,geol.</u>
<u>Alger 15'</u>		<u>62k See Alger, Foraker,</u>
		<u>Roundhead, Silver Creek.</u>
<u>Alliance</u>	<u>ORI-129</u>	<u>62k 1/4 SE, glac., c/w OB-68.</u>
<u>Alliance 15'</u>		<u>62k See Alliance, Homeworth,</u>
		<u>Limaville, Robertsville.</u>
<u>Alum Creek</u>	<u>HA-52</u>	<u>31k Partial, Columbus area.</u>
		<u>Floods.</u>
<u>Alvorton 15'</u>		<u>62k See Alvorton, Montrelrier,</u>
		<u>Archibold, Fayette,</u>
		<u>West Unity</u>
<u>Amesville</u>	<u>OB-57</u>	<u>62k 2/3 SE,SW, min. res., geol.</u>
	<u>OB-56</u>	<u>62k 1/3 NE,NW, min. res. geol.</u>
<u>Amesville area</u>	<u>HA-324</u>	<u>12k Partial, Floods.</u>
<u>Amsterdam</u>	<u>OB-35</u>	<u>62k 1/4 bed.</u>
<u>Andersonville</u>	<u>ORI-127</u>	<u>62k Complete, glac.</u>
<u>Andover</u>	<u>ORI-112</u>	<u>62k Complete, glac.</u>
<u>Andover 15'</u>		<u>62k See Andover, Cherry Val-</u>
		<u>ley, Dorset, Leon.</u>
<u>Antrim 15'</u>		<u>62k See Antrim, Birmingham,</u>
		<u>Freeport, Old Washington.</u>
<u>Arlington 15'</u>		<u>62k Arlington, Dunkirk,</u>
		<u>Forest, Mt. Blanchard.</u>
<u>Ashland</u>	<u>GQ-184</u>	<u>24k 1\16 NE, areal, econ. &</u>
		<u>struc. geol.</u>
<u>Ashland 15'</u>		<u>62k See Ashlands North &</u>
		<u>South, Olivesburg, Pavonia</u>
<u>Ashland North</u>	<u>ORI-101</u>	<u>62k Complete, glac.</u>
<u>Ashland South</u>	<u>ORI-101</u>	<u>62k Complete, glac.</u>
<u>Ashtabula 15'</u>		<u>62k See Ashtabulas North &</u>
		<u>South, Geneva.</u>
<u>Ashtabula No.</u>	<u>ORI-112</u>	<u>62k Complete, glac.</u>
<u>Ashtabula So.</u>	<u>ORI-112</u>	<u>62k Complete, glac.</u>
<u>Athalia 15'</u>		<u>62k See Aid, Athalia,</u>
		<u>Mercerville, Waterloo.</u>
<u>Athens</u>	<u>OB-57</u>	<u>62k Complete, bed, glac.</u>
<u>Athens 15'</u>		<u>62k See Athens, Jackson,</u>
		<u>Nelson, The Plains.</u>
<u>Atwater</u>	<u>ORI-114</u>	<u>62k Complete, S&G.</u>
	<u>ORI-126</u>	<u>62k Complete, S&G.</u>

<u>Quad Name</u>	<u>Publication</u>	<u>Scale Coverage</u>
<u>Aurora</u>	<u>ORI-126</u>	<u>62k 3/4 SE,SW, S&G.</u>
	<u>ORI-140</u>	<u>62k 1/4 NE,NW, glac.</u>
<u>Bainbridge</u>	<u>ORI-127</u>	<u>62k 1/4 NE, glac.</u>
	<u>OB-38</u>	<u>100k 1/8 NW</u>
	<u>OB-92</u>	<u>62k 1/8 NW, glac.</u>
<u>Bainbridge 15'</u>		<u>62k See Bainbridge, Byington, Rainsboro, Sinking Spring</u>
<u>Baltic</u>	<u>OB-47</u>	<u>62k 1/4 NW, bed.</u>
	<u>OB-55</u>	<u>62k 1/2 NE,SE, bed.</u>
	<u>ORI-91</u>	<u>62k 1/4 NW, glac.</u>
<u>Barberton area</u>	<u>HA-49</u>	<u>24k Complete, Akron West 7.5</u>
<u>Barboursville</u>	<u>GF-184</u>	<u>125k 1/4 NW, econ. hist. & struc. geol.</u>
<u>Batavia 15'</u>		<u>62k Batavia, Goshen, Newtonsville, Williamsburg.</u>
<u>Belfast</u>	<u>ORI-92</u>	<u>62k 1/6 NE,NW, glac.</u>
	<u>OB-38</u>	<u>100k NE,NW, partial.</u>
<u>Bellevue 15'</u>		<u>62k See Bellevue, Castalia, Clyde, Vickery.</u>
<u>Bellfontaine</u>	<u>ORI-111</u>	<u>62k 1/16 SW, slight, glac.</u>
<u>Bellfontaine 15'</u>		<u>62k See Bellefontaine, De Graff, Huntsville, Russells Point.</u>
<u>Bellville</u>	<u>OB-59</u>	<u>62k 1/3 SE,SW, bed.</u>
	<u>ORI-88</u>	<u>62k 1/2 NE,NW, glac.</u>
<u>Bellville 15'</u>		<u>62k See Lubeck, Pond Creek.</u>
<u>Belmont</u>	<u>OB-66</u>	<u>62k Complete, bed., min. res.</u>
<u>Ben's Run</u>	<u>OB-66</u>	<u>62k Complete, bed., min. res.</u>
<u>Berea</u>	<u>ORI-119</u>	<u>62k 1/8 SE,SW, S&G.</u>
	<u>ORI-133</u>	<u>62k 1/4 SE,SW, S&G.</u>
	<u>ORI-134</u>	<u>62k 3/4 NE,NW, glac.</u>
	<u>ORI-141</u>	<u>62k 1/4 SE,SW, glac.</u>
<u>Berea 15'</u>		<u>62k See Berea, Lakeview, West View, North Olmstead</u>
<u>Bergholz</u>	<u>ORI-87</u>	<u>24k Complete, bed.</u>
	<u>OB-35</u>	<u>62k SE, partial.</u>
<u>Berlin</u>	<u>OB-47</u>	<u>62k Complete, bed.</u>
<u>Berlin Hts.</u>	<u>ORI-60</u>	<u>24k Complete.</u>
<u>Beverly</u>	<u>OB-56</u>	<u>62k 1/2 NE,NW,SW, min. res.</u>
	<u>OB-66</u>	<u>62k 1/2 SE, min. res.</u>
<u>Bidwell 15'</u>		<u>62k See Patriot, Rio Grande, Rodney, & Vinton.</u>
<u>Birmingham</u>	<u>OB-55</u>	<u>62k 1/3 NE,NW, bed.</u>
<u>Blanchester</u>	<u>ORI-67</u>	<u>62k Most of Q.</u>
<u>Blanchester 15'</u>		<u>62k See Blanchester, Clarks-ville, Martinsville, Wilmington.</u>
<u>Blooming Grove</u>	<u>ORI-88</u>	<u>62k 1/2 NE, glac.</u>
<u>Bluffton 15'</u>		<u>62k See Ada, Beaverdam, Bluffton, Rawson.</u>
<u>Bolivar</u>	<u>OB-55</u>	<u>62k 1/4 SE,SW, glac.</u>
<u>Bourneville</u>	<u>ORI-127</u>	<u>62k Complete, bed.</u>

<u>Quad Name</u>	<u>Publication</u>	<u>Scale Coverage</u>
<u>Bowersville</u>	<u>ORI-67</u>	<u>62k 1/3 SE.SW. glac.</u>
<u>Bowling Green 15'</u>		<u>62k See Bowling Greens N. & S., Dunbridge, Jerry City.</u>
<u>Brinkhaven</u>	<u>OB-47</u>	<u>62k 1/4 NE. bed.</u>
	<u>OB-59</u>	<u>62k 1/2 NE.NW.SW. bed. & glac.</u>
<u>Brinkhaven 15'</u>		<u>62k See Brinkhaven, Spring Mtn., Walhondung, Warsaw.</u>
<u>Bristolville</u>	<u>ORI-80</u>	<u>62k Complete. glac.</u>
	<u>ORI-125</u>	<u>62k Complete. S&G.</u>
<u>Bristolville 15'</u>		<u>62k See Bristolville, Champion, West Farmington, Southington.</u>
<u>Broadview Heights</u>	<u>ORI-98</u>	<u>62k 1\8. SE.</u>
	<u>ORI-108</u>	<u>62k 1\8. SE. surf.</u>
	<u>ORI-119</u>	<u>62k 1\8. SW. S&G.</u>
	<u>ORI-123</u>	<u>62k Slight. glac. c/w OB-68.</u>
	<u>ORI-133</u>	<u>62k 1\4. SW. S&G.</u>
	<u>ORI-134</u>	<u>62k Slight. glac. c/w OB-68.</u>
	<u>ORI-141</u>	<u>62k Slight. glac. c/w OB-68.</u>
<u>Brookville</u>	<u>ORI-135</u>	<u>62k Complete. S&G.</u>
<u>Brookville 15'</u>		<u>62K See Brookville, Laura, Trotwood, West Milton.</u>
<u>Bryan 15'</u>		<u>62k See Bryan, Butler, Edgerton, Hicksville, Mark Center, Sherwood.</u>
<u>Bucyrus 15'</u>		<u>62k See Bucyrus, Chatfield, North Robinson, New Washington.</u>
<u>Burlington</u>	<u>ORI-83</u>	<u>24k 1/4 NE. bed.</u>
	<u>OB-19</u>	<u>Partial bed.</u>
<u>Burton</u>	<u>ORI-140</u>	<u>62k Complete. glac.</u>
<u>Butler</u>	<u>OB-59</u>	<u>62k 1/2 SE.SW. bed. & glac.</u>
	<u>ORI-88</u>	<u>62k 1/2 NE.NW. glac.</u>
<u>Byington</u>	<u>ORI-95</u>	<u>12k 2/3 NW.SW. bed.</u>
<u>Cadiz 15'</u>		<u>62k See Amsterdam, Cadiz, Richmond, Smithfield</u>
<u>Caldwell 15'</u>		<u>62k See Beverly, Caldwell South, Lowell Reinersville</u>
<u>Caldwell North</u>	<u>ORI-72</u>	<u>62k Complete. bed.</u>
<u>Caldwell South</u>	<u>OB-56</u>	<u>62k 1/16 SW. bed.</u>
<u>Cambridge 15'</u>		<u>62k See Bloomfield, Cambridge, Kimbolton, Plainfield.</u>
<u>Cameron 15'</u>		<u>62K See Moundsville.</u>
<u>Campbell</u>	<u>ORI-139</u>	<u>62K Complete. glac.</u>
<u>Canal Dover 15'</u>		<u>62k See Dover 15'</u>
<u>Canal Fulton</u>	<u>ORI-98</u>	<u>62k 3/4 NE.NW. glac.</u>
	<u>ORI-109</u>	<u>62k 3/4 NE.NW. surf.</u>
	<u>ORI-123</u>	<u>62k 2/3 NE.NW. c/w OB-68</u>
<u>Canfield</u>	<u>ORI-139</u>	<u>62k Most of Q. glac.</u>
<u>Canton area</u>	<u>HA-50</u>	<u>24k Complete. Akron East 7.5.</u>

<u>Quad Name</u>	<u>Publication</u>	<u>Scale Coverage</u>
<u>Canton 15'</u>		62k <u>See Canton East, Canton West, Hartville, & North Canton.</u>
<u>Carrollton 15'</u>		62k <u>See Carrollton, Delroy, Malvern, & Minerva.</u>
<u>Carrollton</u>	<u>ORI-71</u>	24k <u>Complete, bed.</u>
<u>Catlettsburg</u>	<u>GF-184</u>	125k <u>1/2 NE,NW, areal & struct. geol.</u>
<u>Celina 15'</u>		62k <u>See Celina, Erastus, Mendon, New Corydon, Rockford, Willshire.</u>
<u>Center Run Area</u>	<u>HA-40</u>	12k <u>Partial, Mt. Vernon, Floods.</u>
<u>Centerburg</u>	<u>OB-59</u>	62k <u>1/2 bed. & glac.</u>
<u>Ceredo 15'</u>	<u>GF-184</u>	125k <u>See Catlettsburg 7.5.</u>
<u>Chagrin Falls</u>	<u>ORI-134</u>	62k <u>9/10 SW,NW, glac. c/w OB-68.</u>
	<u>ORI-140</u>	62k <u>1/8 NE,SE, c/w OB-68.</u>
<u>Chagrin Falls 15'</u>		62k <u>See Aurora, Chagrin Falls, South Russell, Twinsburg.</u>
<u>Champion</u>	<u>ORI-80</u>	62k <u>Complete, glac.</u>
	<u>ORI-125</u>	62k <u>Complete, S&G.</u>
<u>Chardon</u>	<u>ORI-140</u>	62k <u>Complete, glac.</u>
<u>Chardon 15'</u>		62k <u>See Chardon, East Claridon, Painesville, Thomason.</u>
<u>Cherry Valley</u>	<u>ORI-112</u>	62k <u>Complete, glac.</u>
	<u>ORI-128</u>	62k <u>Complete, S & G.</u>
<u>Chesterhill</u>	<u>OB-56</u>	62k <u>1/4 SW,NW, min. res. c/w OB-66.</u>
	<u>OB-57</u>	62k <u>1/8 SW, min. res., bed.</u>
<u>Chesterhill 15'</u>		62k <u>See Amesville, Chesterhill, Cutler, Stewart.</u>
<u>Chesterland</u>	<u>ORI-117</u>	62k <u>1/4 NW, glac.,c/w OB-68</u>
	<u>ORI-140</u>	62K <u>3/4 NE,SE,SW, glac. c/w OB-68</u>
<u>Christianburg</u>	<u>ORI-111</u>	62K <u>1/8 NE, glac.</u>
	<u>ORI-136</u>	62k <u>1/4 NE, S&G.</u>
	<u>ORI-137</u>	62k <u>1/4,SE, S&G.</u>
<u>Chilicothe area</u>	<u>HA-45</u>	24k <u>Complete, Floods.</u>
<u>Chilicothe East</u>	<u>ORI-127</u>	62k <u>Complete, glac.</u>
<u>Chilicothe 15'</u>		62k <u>See Chilicothe, Hallsville, Kingston, Londonderry.</u>
<u>Chilicothe West</u>	<u>ORI-127</u>	62k <u>Complete, glac.</u>
<u>Cincinnati East</u>	<u>OB-19</u>	<u>Complete.</u>
	<u>ORI-94</u>	62k <u>Complete, bed.</u>
<u>Cincinnati West</u>	<u>ORI-93</u>	24k <u>Complete, bed.</u>
	<u>OB-19</u>	<u>Complete.</u>
<u>Circleville area</u>	<u>HA-48</u>	12k <u>Partial, Floods.</u>

<u>Quad Name</u>	<u>Publication</u>	<u>Scale Coverage</u>
<u>Circleville 15'</u>		62k See Ashville, Circleville, East Ringgold, Stoutsville.
<u>Clarington 15'</u>		62k See Armstrongsmills, Businessburg, Cameron, & Powhatan Point.
<u>Clarksburg</u>	<u>ORI-127</u>	24k Slight, SE, SW, glac.
<u>Clarksville</u>	<u>ORI-67</u>	24k 7/8 NE, SE, SW, glac.
<u>Cleveland 15'</u>		62k See Broadview Heights, Shaker Heights, Cleveland South, Northfield, Cleveland North
<u>Cleveland North</u>	<u>ORI-134</u>	24k Complete, glac.
<u>Cleveland South</u>	<u>ORI-134</u>	24k Complete, glac.
<u>Clifton</u>	<u>ORI-137</u>	24k 1/2 NE, NW, S&G.
<u>College Corner</u>	<u>OB-19</u>	24k Partial.
	<u>ORI-130</u>	24k 1/4 SW, S&G.
<u>College Corner 15'</u>		62k See College Corner & Fairhaven.
<u>Columbiana</u>	<u>ORI-129</u>	24k 1/4 SE, SW, glac.
	<u>ORI-131</u>	24k 1/4 SE, SW, S&G.
	<u>ORI-139</u>	24k 3/4 NE, glac.
<u>Columbiana 15'</u>		62k See Columbiana, East Palestine, Elkton, New Middletown.
<u>Columbus</u>	<u>GF-197</u>	125k Complete. Areal & surf.
	<u>HA-52</u>	31k Partial. Floods, Alum Creek
<u>Columbus area</u>	<u>HA-52</u>	32k Partial. Floods.
<u>Columbus Grove 15'</u>		62k See Cairo, Columbus Grove, Elida, Kalida.
<u>Conesville 15'</u>		62k See Adamsville, Conesville, Otsego, Wills Creek.
<u>Conneaut</u>	<u>ORI-112</u>	24k Complete, glac.
	<u>ORI-128</u>	24k Complete, S&G.
<u>Conneaut 15'</u>		62k See Conneaut, Gageville, North Kingsville, Pierpont
<u>Continental 15'</u>		62k See Aversville, Continental, Junction, Oakwood.
<u>Coolville</u>	<u>OB-57</u>	24k 1/2 NE, NW, min. res., bed.
<u>Corning</u>	<u>OB-48</u>	24k 1/2 NW, bed, geology.
	<u>OB-56</u>	24k 1/4 NE, SE, min. res.
	<u>OB-57</u>	24k 1/4 SW, min. res.
<u>Cortland</u>	<u>ORI-80</u>	24k Complete, glac.
<u>Coshockton</u>	<u>ORI-125</u>	24k Complete, S&G.
<u>Coshockton 15'</u>		62k See Coshockton, Killbuck, New Bedford, Randall.
<u>Covington</u>	<u>OB-19</u>	Partial.

<u>Quad Name</u>	<u>Publication</u>	<u>Scale</u>	<u>Coverage</u>
<u>Covington 15'</u>		62k	See Gettysburg, Piqua West, Pleasant Hill, Versailles.
<u>Crab Creek area</u>	HA-56	24k	Partial, Youngstown, Floods
<u>Crestline</u>	ORI-88	24k	Almost all, glac.
<u>Creston</u>	ORI-61	24k	7/8 SE, SW, bed.
	ORI-62	24k	7/8 SE, SW, glac.
	ORI-119	24k	1/8 NE, NW, S&G.
	ORI-133	24k	1/8 NE, NW, Slight, glac.
	ORI-141	24k	1/8 NE, NW, Slight, glac.
<u>Crestline 15'</u>		62k	Crestline, Mansfield North, Shelby, Shiloh
<u>Crooksville</u>	OB-48	24k	1/4 SW, bed.
	OB-56	24k	Slight, SE, min. res.
	OB-21	24k	Slight, NE, NW.
<u>Cumberland</u>	OGSMap-1947	24k	Complete.
	OB-56	24k	Slight, SW, min. res.
	OB-21	24k	1/2 NW, SW, Partial
<u>Cumberland 15'</u>		62k	See Byesville, Caldwell North, Cumberland, New Concord.
<u>Cutler</u>	OB-57	24k	1/2 SW, NW, SE, bed.
	OB-66	24k	1/2 NE, bed.
<u>Dalton</u>	ORI-61	24k	2/3 NW, SW, bed. c/w OB-68.
	ORI-62	24k	2/3 NW, SW, glac.
<u>Dalzell</u>	OB-66	24k	3/4 SE, SW, glac.
<u>Damascus</u>	ORI-129	24k	1/4 SE, SW, c/w OB-68.
	ORI-136	24k	1/3 NE, NW, S&G.
	ORI-139	24k	2/3 NE, NW, glac.
<u>Danville</u>	OB-59	24k	Complete, bed. & glac.
<u>Darby Creek area</u>	HA-48	12k	Partial, Circleville, Floods.
<u>Dayton 15'</u>		62k	See Dayton North, Fairborn, New Carlisle, Tripp City.
<u>De Graff</u>	ORI-111	24k	1/4 SE, SW, glac.
	ORI-136	24k	1/4 SE, SW, S&G.
<u>Deavertown</u>	OB-48	24k	3/4 NW, SW, bed.
	OB-56	24k	1/4 NE, SE, min. res.
<u>Deerfield</u>	ORI-114	62k	Complete, S&G.
	ORI-126	62k	Complete, S&G.
<u>Defiance 15'</u>		62k	See Defiance East & West, Evansport, & Ridgeville Corners.
<u>Delaware 15'</u>		62k	See Delaware, Ostrander, Prospect, Waldo.
<u>Dellroy</u>	ORI-68	24k	Complete, bed.
<u>Delphos 15'</u>		62k	See Delphos, Middle Point, Ottoville, Wetsel.

<u>Quad Name</u>	<u>Publication</u>	<u>Scale Coverage</u>
<u>Deshler 15'</u>		62k <u>See Deshler, Hoytville, Leipsic, Mc Comb.</u>
<u>Dillonvale</u>	<u>OB-35</u>	62k <u>3/4 NE,NW, bed. geol.</u>
<u>Donnellsville</u>	<u>ORI-137</u>	62k <u>Complete, S&G.</u>
<u>Dorset</u>	<u>ORI-112</u>	62k <u>Complete, glac.</u>
	<u>ORI-128</u>	62k <u>Complete, S&G.</u>
<u>Dover</u>	<u>OB-55</u>	62k <u>Complete, bedr.</u>
<u>Dover 15'</u>		62k <u>See Bolivar, Dover, Mineral City, Waynesburg.</u>
<u>Doylestown</u>	<u>ORI-61</u>	62k <u>2/3 SW, bed.</u>
	<u>ORI-62</u>	62k <u>2/3 SW, glac.</u>
	<u>ORI-98</u>	62k <u>1/8 NE.</u>
	<u>ORI-109</u>	62k <u>1/8,NE, S&G.</u>
	<u>ORI-119</u>	62k <u>1/8,NW, S&G.</u>
	<u>ORI-123</u>	62k <u>1/3 NE, glac.</u>
	<u>ORI-133</u>	62k <u>1/16 NW, S&G.</u>
	<u>ORI-141</u>	62k <u>1/16 NW,glac. c/w OB-68.</u>
<u>Dublin 15'</u>		62k <u>See Hilliard, NW Columbus, Powell, Shawnee Hills.</u>
<u>East Cincinnati 15'</u>		62k <u>See Cincinnati East, Madeira, Newport, Withamsville.</u>
<u>East Claridon</u>	<u>ORI-128</u>	62k <u>Complete, S&G.</u>
	<u>ORI-140</u>	62k <u>Complete, glac.</u>
<u>East Cleveland</u>	<u>ORI-134</u>	62k <u>Complete, glac.</u>
<u>East Columbus 15'</u>		62k <u>See Canal, Winchester, Lockbourne, Reynoldsburg SE, Columbus</u>
<u>Eastlake</u>	<u>ORI-117</u>	62k <u>Complete, glac.</u>
<u>East Liberty</u>	<u>ORI-66</u>	24k <u>Complete, glac.</u>
<u>East Liberty 15'</u>		62k <u>See East Liberty, Rushsylvania, W. Mansfield, Zanesville.</u>
<u>East Liverpool N.</u>	<u>ORI-129</u>	62k <u>7/8 NE,NW,SW, glac.</u>
	<u>ORI-131</u>	62k <u>7/8,NE,NW, S&G.</u>
<u>East Liverpool S.</u>	<u>ORI-129</u>	62k <u>Slight, glac.</u>
	<u>ORI-131</u>	62k <u>Slight, S&G.</u>
	<u>OB-35</u>	62k <u>Slight, SW.</u>
<u>East Palestine</u>	<u>OBG-C1G5</u>	24k <u>Complete, bedrock.</u>
	<u>ORI-128</u>	62k <u>7/8 NW,SW, S&G.</u>
	<u>ORI-129</u>	62k <u>Complete, glac.</u>
<u>East Trumbull</u>	<u>ORI-112</u>	62k <u>Complete, glac.</u>
	<u>ORI-128</u>	62k <u>Complete, S&G.</u>
<u>Elkton</u>	<u>ORI-129</u>	62k <u>Complete, glac.</u>
	<u>ORI-131</u>	62k <u>Complete, S&G.</u>
<u>Elmore 15'</u>		62k <u>See Bradmore, Elmore, Helena, Pemberville.</u>
<u>Era 15'</u>		62k <u>See Clarksburg, Darbyville, Five Points, Williamsport.</u>

<u>Quad Name</u>	<u>Publication</u>	<u>Scale Coverage</u>
<u>Euclid 15'</u>		62k <u>See Cleveland North, East Cleveland.</u>
<u>Fairborn</u>	<u>ORI-135</u>	62k <u>1/4 NW, SW, S&G.</u>
<u>Farmington, W.</u>	<u>ORI-80</u>	62k <u>Complete, glac.</u>
<u>Federal Creek area</u>	<u>HA-324</u>	12k <u>Partial, Athens 7.5. Floods.</u>
<u>Felicity</u>	<u>GQ-1063</u>	24k <u>Complete.</u>
<u>Felicity 15'</u>		62k <u>See Bethel, Felicity, Laurel, Moscow.</u>
<u>Findlay 15'</u>		62k <u>See Arcadia, Bloomdale, Findlay, North Baltimore.</u>
<u>Fleming</u>	<u>OB-66</u>	62k <u>Complete, min.res., geol.</u>
<u>Fletcher</u>	<u>ORI-111</u>	62k <u>1/8 NE, SE, glac.</u>
	<u>ORI-136</u>	62k <u>1/4 NE, SE, S&G.</u>
<u>Florence</u>	<u>ORI-137</u>	62k <u>1/3 NW, S&G.</u>
<u>Flushing 15'</u>		62k <u>See Bethesda, Fairview, Flushing, Piedmont.</u>
<u>Fort Recovery 15'</u>		62k <u>See Cosmos, Ft. Recovery.</u>
<u>Fostoria 15'</u>		62k <u>See Alvada, Bascom, Fostoria, New Riegel</u>
<u>Frankfurt</u>	<u>ORI-127</u>	62k <u>Complete, glac.</u>
<u>Franklin</u>	<u>OB-19</u>	<u>Partial.</u>
<u>Frayzeysburg 15'</u>		62k <u>See Dresden, Perryton, Toboso, Trinway.</u>
<u>Fredericksburg</u>	<u>OB-47</u>	62k <u>1/3 SE, SW, bed.</u>
	<u>ORI-61</u>	62k <u>2/3 NE, NW, bed.</u>
	<u>ORI-62</u>	62k <u>2/3 NE, NW, glac.</u>
	<u>ORI-91</u>	62k <u>1/3 SE, SW, glac.</u>
<u>Fredericktown</u>	<u>OB-59</u>	62k <u>Complete, bed. & glac.</u>
<u>Fredericktown 15'</u>		62k <u>See Centerbury, Chester-ville, Fredericktown, Homer.</u>
<u>Freeport</u>	<u>OB-55</u>	62k <u>Slight, NW, bed. & glac.</u>
<u>Fremont</u>	<u>HA-47</u>	24k <u>Complete, Flood, Fremont 7.5.</u>
<u>Fremont 15'</u>		62k <u>See Fremonts East & West Lindsey, Wightman's Grove</u>
<u>Fresno</u>	<u>OB-55</u>	62k <u>Slight, NE, bed.</u>
<u>Fultonham</u>	<u>OB-48</u>	62k <u>3/4 NW, SW, SE, bed. & glac.</u>
	<u>OB-21</u>	62k <u>NE.</u>
<u>Gageville</u>	<u>ORI-112</u>	62k <u>Complete, glac.</u>
	<u>ORI-128</u>	62k <u>Complete, S&G.</u>
<u>Gambier 15'</u>		62k <u>See Danville, Hunt, Martinsburg, Mt. Vernon</u>
<u>Garrettsville</u>	<u>ORI-54</u>	62k <u>Complete, bed.</u>
	<u>ORI-80</u>	62k <u>1/10 NE, SE, glac.</u>
	<u>ORI-114</u>	62k <u>3/4 SE, SW, S&G.</u>
	<u>ORI-126</u>	62k <u>1/4 SE, SW, S&G.</u>
	<u>ORI-140</u>	62k <u>1/3 NE, NW, glac.</u>

<u>Quad Name</u>	<u>Publication</u>	<u>Scale Coverage</u>
<u>Garrettsville 15'</u>		62k <u>See Burton, Garrettsville, Mantua, Middlefield</u>
<u>Garrison</u>	<u>GQ-1490</u>	24k <u>Complete.</u>
<u>Garrison 15'</u>		62k <u>See Friendship, Garrison, & Pond Run.</u>
<u>Gavers</u>	<u>ORI-129</u>	62k <u>Complete, NE,NW,SE, glac.</u>
	<u>ORI-131</u>	62k <u>Complete,NE,NW,SE, S&G.</u>
<u>Geneva</u>	<u>ORI-112</u>	62k <u>Complete, glac.</u>
	<u>ORI-128</u>	62k <u>Complete, S&G.</u>
<u>Girard</u>	<u>ORI-80</u>	62k <u>Complete, glac.</u>
	<u>ORI-125</u>	62k <u>Complete, S&G.</u>
<u>Glendale</u>	<u>OB-19</u>	<u>Partial.</u>
<u>Glenford</u>	<u>ORI-59</u>	62k <u>2/3 NE,NW, glac.</u>
<u>Glenmont</u>	<u>OB-47</u>	62k <u>Complete, glac.</u>
	<u>ORI-91</u>	62k <u>Complete, glac.</u>
<u>Glenwood 15'</u>		62k <u>See Apple Grove, Athalia, Glenwood, & Mercerville.</u>
<u>Gnadenhutten</u>	<u>OB-55</u>	62k <u>Complete.</u>
<u>Good Hope</u>	<u>ORI-127</u>	62k <u>1/2 NE,SE,SW, glac.</u>
<u>Gore</u>	<u>ORI-48</u>	62k <u>1/3 NE,NW, bed.</u>
<u>Granville</u>	<u>ORI-59</u>	62k <u>Complete, glac.</u>
<u>Granville 15'</u>		62k <u>See Fredonia, Granville, Jersey, Johnstown.</u>
<u>Gratiot</u>	<u>OB-48</u>	62k <u>1/4 SW, bed.</u>
	<u>OB-21</u>	62k <u>2/3 NE,SE.</u>
<u>Greenfield</u>	<u>ORI-92</u>	62k <u>7/8 NW,SW, glac..</u>
	<u>ORI-127</u>	62k <u>1/8 NE,SE, glac..</u>
<u>Greenfield 15'</u>		62k <u>See Good Hope, Greenfield, New Marlinsburg, South Salem.</u>
<u>Greenhills</u>	<u>OB-19</u>	<u>Partial.</u>
<u>Greenup 15'</u>		62K <u>See Greenup, Portsmouth, Wheelersburg.</u>
<u>Greenville 15'</u>		62k <u>See Ansonia, Dawn, Greenvilles East & West.</u>
<u>Greer</u>	<u>OB-47</u>	62k <u>5/8 NE,SE, bed. c/w OB-68.</u>
	<u>OB-59</u>	62k <u>1/4 SW, bed. & glac.</u>
	<u>ORI-91</u>	62k <u>5/8 NE,SE, glac.</u>
	<u>ORI-101</u>	62k <u>1/8 NW, glac.</u>
<u>Gustavus</u>	<u>ORI-80</u>	62k <u>9/10 SE,SW, glac.</u>
	<u>ORI-125</u>	62k <u>Complete, S&G.</u>
<u>Guyandot Huntington </u>	<u>GF-69</u>	125k <u>See Huntington & Barbourville.</u>
<u>Hallsville</u>	<u>ORI-127</u>	62k <u>2/3 SE,SW, glac.</u>
<u>Hamilton</u>	<u>OB-19</u>	<u>Complete, glac.</u>
	<u>ORI-130</u>	62k <u>Complete, S&G.</u>

<u>Quad Name</u>	<u>Publication</u>	<u>Scale Coverage</u>
<u>Hamilton 15'</u>		62k <u>See Greenhills, Hamilton, Harrison, Millville, Reily, Shandon.</u>
<u>Hanoverton</u>	<u>OB-19</u>	<u>Complete, glacial.</u>
<u>Harrison</u>	<u>ORI-131</u>	62k <u>Complete, S & G.</u>
<u>Hickman</u>	<u>OB-19</u>	<u>Partial.</u>
<u>Higginsport</u>	<u>ORI-59</u>	62k <u>9/10 SE, SW, glac.</u>
<u>Higginsport 15'</u>	<u>GQ-1065</u>	24k <u>Complete.</u>
		62k <u>See Ash Ridge, Hamersville, Higginsport, Russellville.</u>
<u>Hillsboro</u>	<u>ORI-92</u>	62k <u>Complete, glac.</u>
	<u>OB-38</u>	100k <u>Complete.</u>
<u>Hillsboro 15'</u>		62k <u>See Belfast, Hillsboro, New Market, Sugar Tree Ridge.</u>
<u>Homer</u>	<u>OB-59</u>	62k <u>9/10 NE, NW, glac..</u>
<u>Holmesville</u>	<u>OB-47</u>	62k <u>1/3 SE, SW, bed.</u>
	<u>ORI-61</u>	62k <u>2/3 NE, NW, bed., c/w OB-68.</u>
	<u>ORI-62</u>	62k <u>2/3 NE, NW, glac., c/w OB-68.</u>
	<u>ORI-91</u>	62k <u>1/3 SE, SW, glac.</u>
<u>Homeworth</u>	<u>ORI-129</u>	62k <u>1/3 NE, SE, glac.</u>
	<u>ORI 131</u>	62k <u>2/3 NE, SE, glac.</u>
<u>Hoover</u>	<u>OB-19</u>	<u>2/3 NE, SE.</u>
<u>Hudson</u>	<u>ORI-98</u>	62k <u>7/8 NW, SW, S&G.</u>
	<u>ORI-109</u>	62k <u>7/8 NW, SW, S&G.</u>
	<u>ORI-114</u>	62k <u>1/8 NE, SE, S&G.</u>
	<u>ORI-123</u>	62k <u>7/8 NW, SW, glac., c/w OB-68.</u>
	<u>ORI-126</u>	62k <u>1/8 NE, SE, S&G.</u>
<u>Hunt</u>	<u>OB-59</u>	62k <u>Complete exc. SW, bed. & glac.</u>
<u>Huntington</u>	<u>GF-69</u>	125k <u>Complete, Econ. & Hist.</u>
<u>Ironton 15'</u>		62k <u>See Ironton, Kitts Hills, Pedro, & Sherritts.</u>
<u>Jackson</u>	<u>HA-325</u>	12k <u>Partial, Floods.</u>
<u>Jackson 15'</u>		62k <u>See Byer, Hamden, Jackson, Wellston.</u>
<u>Jacksonville</u>	<u>OB-57</u>	62k <u>3/4 NW, SE, SW, bed. & min. res.</u>
	<u>OB-56</u>	62k <u>1/4 NE, bed. & min. res.</u>
<u>Jefferson</u>	<u>ORI-112</u>	62k <u>Complete, glac.</u>
	<u>ORI-128</u>	62k <u>Complete, S&G.</u>
<u>Jefferson 15'</u>		62k <u>See East Trumbull, Jefferson, Orwell, Windsor.</u>
<u>Jelloway</u>	<u>ORI-101</u>	62k <u>1/4 NE, glac. c/w OB-68.</u>
	<u>OB-59</u>	62k <u>1/2 SE, SW, bed. & glac.</u>
	<u>ORI-88</u>	62k <u>1/8 NW, glac.</u>
<u>Jeromesville</u>	<u>ORI-101</u>	62k <u>Complete. Also OB-59.</u>

<u>Quad Name</u>	<u>Publication</u>	<u>Scale Coverage</u>
<u>Jersey</u>	<u>ORI-59</u>	62k <u>Complete, glac.</u>
<u>Johnstown</u>	<u>ORI-59</u>	62k <u>Complete, glac.</u>
<u>Junction City</u>	<u>OB-48</u>	64k <u>Complete, bed.</u>
<u>Keno 15'</u>		62k <u>See Alfred, Chester, Coolville, Portland.</u>
<u>Kenova</u>	<u>GF-184</u>	125k <u>Complete.</u> <u>Also see Ashland 7.5.</u>
<u>Kensington</u>	<u>ORI-55</u>	24k <u>Complete.</u>
	<u>ORI-129</u>	62k <u>1/3 NE,NW, glac.</u>
	<u>ORI-131</u>	62k <u>1/2 NE,NW, S&G.</u>
<u>Kent</u>	<u>ORI-114</u>	62k <u>Complete, S&G.</u>
	<u>ORI-126</u>	62k <u>Complete, S&G.</u>
<u>Kent 15'</u>		62k <u>See Akron East, Hudson, Kent, Suffield.</u>
<u>Kenton 15'</u>		62k <u>See Foraker, Kenton, Mt. Victory, Silver Creek.</u>
<u>Killbuck</u>	<u>OB-47</u>	62k <u>1/2 NE,NW, bed.</u>
	<u>ORI-9</u>	162k <u>1/2 NE,NW, glac.</u>
<u>Kimbolton</u>	<u>OB-55</u>	62k <u>1/3 NE,NW, bed..</u>
<u>Kingscreek</u>	<u>ORI-111</u>	62k <u>7/8 SE,SW, glac.</u>
	<u>ORI-136</u>	62k <u>7/8 SE,SW, S&G.</u>
<u>Kingston</u>	<u>ORI-127</u>	62k <u>1/4 SE,SW, glac.</u>
<u>Kinsman</u>	<u>ORI-80</u>	62k <u>9/10 NW,SW, glac.</u>
	<u>ORI-125</u>	62k <u>Complete, S&G.</u>
<u>Kinsman 15'</u>		62k <u>See Cortland, Gustavus, Kinsman, Orangeville.</u>
<u>Kokosing River</u>	<u>HA-40</u>	12k <u>Partial, Mt. Vernon, Floods.</u>
<u>Knoxville</u>	<u>OB-35</u>	62k <u>Complete.</u>
<u>La Grange</u>	<u>ORI-133</u>	62k <u>1/4 SE, S&G.</u>
	<u>ORI-119</u>	62k <u>1/4 SE, S&G.</u>
	<u>ORI-141</u>	62k <u>1/4 SE, glac.,c/w OB-68</u>
<u>La Rue 15'</u>		62k <u>See La Rue, Marseilles, Meeker, New Bloomington.</u>
<u>Lake Milton</u>	<u>ORI-139</u>	62k <u>Complete, glac.</u>
<u>Lakewood</u>	<u>ORI-134</u>	62k <u>Complete, glac.</u>
<u>Lancaster 15'</u>		62k <u>See Amanda, Clearport, Lancaster, Rock Bridge.</u>
<u>Laura</u>	<u>ORI-135</u>	62k <u>1/4 SE,SW, S&G.</u>
<u>Laurel</u>	<u>GQ-1075</u>	24k <u>Complete</u>
<u>Laurelville 15'</u>		62k <u>See Allensville, Laurelville, Ratcliff burg, S.Bloomington</u>
<u>Lawrenceburg</u>	<u>OB-19</u>	<u>Partial, geologic.</u>
<u>Lawrenceburg 15'</u>		62k <u>See Hooven, Lawrenceburg.</u>
<u>Leadville area</u>	<u>Mono 39-4</u>	12k <u>Partial, Prelim, geology.</u>
<u>Leesburg</u>	<u>ORI-92</u>	62k <u>7/8 glac, c/w ORI-67</u>
	<u>OB-38</u>	100k <u>Complete.</u>
<u>Leon</u>	<u>ORI-112</u>	62k <u>Complete, glac.</u>
	<u>ORI-128</u>	62k <u>Complete, S&G.</u>

<u>Quad Name</u>	<u>Publication</u>	<u>Scale</u>	<u>Coverage</u>
<u>LeRoy</u>	<u>See Westfield Center.</u>		
<u>Liberty, East</u>	<u>See East Liberty.</u>		
<u>Licking River</u>	<u>HA-44</u>	<u>24k</u>	<u>Partial. Floods.</u>
	<u>HA-46</u>	<u>12k</u>	<u>Partial. Floods.</u>
<u>Lima 15'</u>		<u>62k</u>	<u>See Criddersville, Lima, Uniopolis, Wapakonita.</u>
<u>Lisbon</u>	<u>ORI-129</u>	<u>62k</u>	<u>Complete, glacial.</u>
	<u>ORI-131</u>	<u>62k</u>	<u>Complete, S&G.</u>
<u>Lisbon 15'</u>		<u>62k</u>	<u>See Damascus, Hanoverton, Lisbon, Salem.</u>
<u>Little Hocking</u>	<u>OB-66</u>	<u>62k</u>	<u>9/10 NE, NW, bed, min. res.</u>
<u>Little Salt Creek</u>	<u>HA-325</u>	<u>12k</u>	<u>Partial, Jackson, Floods.</u>
<u>Lodi</u>	<u>ORI-119</u>	<u>62k</u>	<u>Complete, S&G.</u>
	<u>ORI-133</u>	<u>62k</u>	<u>Complete, S&G.</u>
	<u>ORI-141</u>	<u>62k</u>	<u>Complete, glac.</u>
<u>Logan 15'</u>		<u>62k</u>	<u>See Bremen, Gore, Junction City, Logan.</u>
<u>London 15'</u>		<u>62k</u>	<u>See Big Plan, London, Walnut Run, West Jefferson.</u>
<u>Londonderry</u>	<u>ORI-127</u>	<u>62k</u>	<u>7/8 NE, NW, SW, glac.</u>
<u>Loramie 15'</u>		<u>62k</u>	<u>See Fort Loramie, New Bremen, New Knoxville, Osgood.</u>
<u>Loudonville</u>	<u>ORI-61</u>	<u>62k</u>	<u>1/8 NE, SE, bed.</u>
	<u>ORI-62</u>	<u>62k</u>	<u>1/8 NE, SE, bed.</u>
	<u>ORI-91</u>	<u>62k</u>	<u>1/4 NE, NW, SW, glac.</u>
	<u>ORI-101</u>	<u>62k</u>	<u>3/4 NE, NW, SW, glac., c/w OB-47.</u>
<u>Loudonville 15'</u>		<u>62k</u>	<u>See Glenmont, Greer, Loudonville, Shreve.</u>
<u>Lowell</u>	<u>OB-56</u>	<u>62k</u>	<u>1/4 NE, NW, SW, min. res., p/w OB-66.</u>
<u>Lubeck</u>	<u>OB-57</u>	<u>62k</u>	<u>1/8 NW, bed.</u>
<u>Lucas</u>	<u>ORI-88</u>	<u>62k</u>	<u>9/10 NE, SE, SW, glac.</u>
	<u>ORI-101</u>	<u>62k</u>	<u>Slight, NE, glac.</u>
<u>Lynchburg</u>	<u>ORI-92</u>	<u>62k</u>	<u>Partial c/w ORI-67</u>
	<u>OB-38</u>	<u>100k</u>	<u>Partial.</u>
<u>Macksburg 15'</u>		<u>62k</u>	<u>See Dalzell, Lower Salem, Macksburg, Stafford.</u>
<u>Madeira</u>	<u>ORI-77</u>	<u>24k</u>	<u>Complete, bed.</u>
	<u>OB-19</u>	<u>62k</u>	<u>Partial.</u>
<u>Madison</u>	<u>ORI-117</u>	<u>62k</u>	<u>Complete, glac.</u>
<u>Mallet Creek</u>	<u>ORI-119</u>	<u>62k</u>	<u>7/8 NE, SE, SW, S&G.</u>
	<u>ORI-133</u>	<u>62k</u>	<u>7/8 NE, SE, SW, S&G.</u>
	<u>ORI-141</u>	<u>62k</u>	<u>1/8 NE, SE, SW, partial, c/w OB-68</u>
<u>Malvern</u>	<u>ORI-57</u>	<u>24k</u>	<u>Complete, glac.</u>
<u>Mansfield, N.</u>	<u>ORI-88</u>	<u>62k</u>	<u>Complete, glac.</u>
<u>Mansfield, S.</u>	<u>ORI-88</u>	<u>62k</u>	<u>Complete, glac.</u>
<u>Mansfield, West</u>	<u>See West Mansfield.</u>		

<u>Quad Name</u>	<u>Publication</u>	<u>Scale</u>	<u>Coverage</u>
<u>Mantua</u>	<u>ORI-114</u>	62k	<u>1/4, SE.SW, S&G.</u>
	<u>ORI-126</u>	62k	<u>3/4 SE.SW, S&G.</u>
	<u>ORI-140</u>	62k	<u>1/4 NE,NW, glac.</u>
<u>Marengo 15'</u>		62k	<u>See Ashley, Kilbourne, Marengo, Olive Green.</u>
<u>Marietta</u>	<u>OB-66</u>	62k	<u>Complete</u>
<u>Marietta 15'</u>		62k	<u>See Belmont, Marietta, Valley Mills, Willow Island.</u>
<u>Marion 15'</u>		62k	<u>See Marions East & West, Monnett, & Morral</u>
<u>Martinsburg</u>	<u>OB-59</u>	62k	<u>Complete, bed.</u>
<u>Martinsville</u>	<u>ORI-67</u>	62k	<u>9/10 NE.SW,NW.</u>
	<u>ORI-92</u>	62k	<u>1/8 SE, glac.</u>
<u>Mason</u>	<u>OB-19</u>		<u>Partial.</u>
	<u>ORI-130</u>	62k	<u>1/4 NW, S&G.</u>
<u>Mason 15'</u>		62K	<u>See Glendale, Mason, Monroe, Trenton</u>
<u>Massillon 15'</u>		62k	<u>See Canal Fulton, Dalton, Doylestown & Massilon.</u>
<u>Maumee Bay 15'</u>		62k	<u>See Erie, Genoa, Oregon, Reno Beach, & Walbridge.</u>
<u>Mayfield Heights</u>	<u>ORI-117</u>	62k	<u>1/2 NE,NW, glac.</u>
	<u>ORI-134</u>	62k	<u>1/3 SE.SW, glac.</u>
	<u>ORI-140</u>	62k	<u>1/8 SE, glac.</u>
<u>Maysville East</u>	<u>GQ-1006</u>	24k	<u>Complete.</u>
<u>Maysville 15'</u>		62k	<u>See Maysville West.</u>
<u>Maysville W.</u>	<u>GQ-1005</u>	24k	<u>Complete.</u>
<u>McClure 15'</u>		62k	<u>See Colton, Grand Rapids, McClure, & Weston.</u>
<u>McConnells</u>	<u>OB-56</u>	62k	<u>Complete, min. res.</u>
<u>McConnellsville 15'</u>		62k	<u>See McConnellsville, Ringgold, Rokeby Lock, Stockport.</u>
<u>McDougal Branch</u>	<u>HA-324</u>	12k	<u>Partial, Amesville, Floods</u>
<u>Mechanicsburg 15'</u>		62k	<u>See Kingscreek, Mechanicsburg, North Lewisburg, Urbana East.</u>
<u>Mechanicsburg</u>	<u>ORI-111</u>	62k	<u>7/8 NW, glacial.</u>
	<u>ORI-136</u>	62k	<u>7/8 NW, S&G.</u>
	<u>ORI-137</u>	62k	<u>1/8 SW, S&G.</u>
<u>Medina</u>	<u>ORI-119</u>	62k	<u>Complete, S&G.</u>
	<u>ORI-133</u>	62k	<u>Complete, S&G.</u>
	<u>ORI-141</u>	62k	<u>Complete, glac.</u>
<u>Medina 15'</u>		62k	<u>See Mallet Creek, Medina, Seville, Westfield Center</u>
<u>Memphis</u>	<u>ORI-67</u>	62k	<u>1/4 NW.SW, glac.</u>
<u>Mentor 15'</u>		62k	<u>See Chesterland, Eastlake, Mayfield Heights, & Mentor</u>
<u>Mentor</u>	<u>ORI-117</u>	62k	<u>3/4 NE,NW.SW, glac.</u>
	<u>ORI-140</u>	62k	<u>1/16 SE, Glacial.</u>

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<u>Miamisburg</u>	<u>ORI-135</u>	<u>62k</u>	<u>Complete, S&G.</u>
<u>Miamisburg 15'</u>		<u>62k</u>	<u>See Farmersville, Franklin, Miamisburg, Middletown</u>
<u>Middlefield</u>	<u>ORI-140</u>	<u>62k</u>	<u>Complete, glac.</u>
<u>Middletown</u>	<u>OB-19</u>	<u>62k</u>	<u>Partial.</u>
	<u>ORI-130</u>	<u>62k</u>	<u>1/2 SE, SW, S&G.</u>
	<u>ORI-135</u>	<u>62k</u>	<u>1/4 NE, NW, S&G.</u>
<u>Milford Center 15'</u>		<u>62k</u>	<u>See Marysville, Millford Center, Plain City, Plumwood.</u>
<u>Milledgeville</u>	<u>ORI-67</u>	<u>62k</u>	<u>1/2 SW, glac.</u>
<u>Millersburg</u>	<u>OB-47</u>	<u>62k</u>	<u>Complete, glac.</u>
	<u>ORI-91</u>	<u>62k</u>	<u>Complete, glac.</u>
<u>Millersburg 15'</u>		<u>62k</u>	<u>See Berlin, Fredericksburg, Holmesville, Millersburg.</u>
<u>Millville</u>	<u>OB-19</u>	<u>62k</u>	<u>Complete.</u>
<u>Mineral</u>	<u>OB-57</u>	<u>62k</u>	<u>1/4 NE, SE, bed. & min. res.</u>
<u>Mineral City</u>	<u>OB-55</u>	<u>62k</u>	<u>1/2 NW, SW, bed.</u>
<u>Minerva</u>	<u>ORI-65</u>	<u>24k</u>	<u>Complete, bed.</u>
	<u>ORI-129</u>	<u>64k</u>	<u>1/8 NW, glac.</u>
	<u>ORI-131</u>	<u>62k</u>	<u>1/4 NE, S&G.</u>
<u>Monroe</u>	<u>OB-19</u>	<u>62k</u>	<u>Partial.</u>
<u>Morgantown</u>	<u>ORI-127</u>	<u>62k</u>	<u>1/2 NE, NW, glac. & bed.</u>
<u>Morrow 15'</u>		<u>62k</u>	<u>See Lebanon, Oregonia, Pleasant Plain, South Lebanon.</u>
<u>Moscow</u>	<u>GQ-1069</u>	<u>24k</u>	<u>Complete</u>
<u>Mosquito Range</u>	<u>Mono 39-4</u>	<u>12k</u>	<u>Partial, Leadville, Prel. geol.</u>
<u>Mount Gilead 15'</u>		<u>62k</u>	<u>See Caledonia, Denmark, Galion & Mount Gilead.</u>
<u>Mount Sterling 15'</u>		<u>62k</u>	<u>See Midway, Mount Sterling, New Holland, Washington Courthouse.</u>
<u>Mount Vernon</u>	<u>HA-40</u>	<u>12k</u>	<u>Partial, Floods.</u>
	<u>OB-59</u>	<u>62k</u>	<u>Complete, bed. & glac.</u>
<u>Napoleon 15'</u>		<u>62k</u>	<u>See Florida, Malinta, Napoleons East & West</u>
<u>Navarre</u>	<u>OB-55</u>	<u>62k</u>	<u>1/4 SE, SW, bed.</u>
<u>Navarre 15'</u>		<u>62k</u>	<u>See Navarre, Strasburg, Sugar Creek, Wilmot.</u>
<u>Nelsonville</u>	<u>OB-57</u>	<u>64k</u>	<u>2/3 NE, SE, SW, bed. & min. res.</u>
<u>New Bedford</u>	<u>OB-47</u>	<u>62k</u>	<u>1/2 NE, NW, bed.</u>
<u>New Burlington</u>	<u>ORI-67</u>	<u>62k</u>	<u>1/2 SE, glac.</u>
<u>New Carlisle</u>	<u>ORI-135</u>	<u>62k</u>	<u>Slight, 1/16, S&G.</u>
	<u>ORI-137</u>	<u>62k</u>	<u>1/3 NE, SE, S&G.</u>
<u>New Concord</u>	<u>OB-21</u>	<u>64k</u>	
<u>New Holland</u>	<u>ORI-140</u>	<u>62k</u>	<u>Slight, SE, glac.</u>

<u>Quad Name</u>	<u>Publication</u>	<u>Scale Coverage</u>
<u>New Lexington</u>	<u>OB-48</u>	<u>62k Complete, bed.</u>
<u>New Lexington 15'</u>		<u>62k See Corning, Deavertown, New Lexington, New Straitsville.</u>
<u>New London</u>	<u>ORI-101</u>	<u>62k 1/4 SE, glac.</u>
<u>New London 15'</u>		<u>62k See Brighton, Clarksfield, New London, Nova.</u>
<u>New Market</u>	<u>ORI-92</u>	<u>62k Complete, glac.</u>
	<u>OB-38</u>	<u>100K Complete.</u>
<u>New Martinsville 15'</u>		<u>62k See New Martinsville, Paden City, Round Bottom.</u>
<u>New Matamoras 15'</u>		<u>62k See Antioch, Graysville, New Matamoras, Rinard Mills.</u>
<u>North Middletown</u>	<u>ORI-129</u>	<u>62k 1/4 SE, SW, glac.</u>
	<u>ORI-131</u>	<u>62k 1/4 SE, SW, S&G.</u>
	<u>ORI-139</u>	<u>62k 3/4 NE, NW, glac.</u>
<u>New Paris 15'</u>		<u>62k See New Paris, Whitewater.</u>
<u>North Philadelphia</u>	<u>OB-55</u>	<u>62k Complete, bed.</u>
<u>North Pittsburg</u>	<u>ORI-61</u>	<u>62k Complete, bed.</u>
	<u>ORI-62</u>	<u>62k Complete, glac.</u>
<u>New Richmond</u>	<u>GQ-1228</u>	<u>24k Complete.</u>
	<u>OB-19</u>	<u>62k Complete.</u>
<u>North Straitsville</u>	<u>OB-48</u>	<u>62k 1/2 NE, NW, bed.</u>
	<u>OB-57</u>	<u>62k 1/4 SE, bed.</u>
<u>New Vienna</u>	<u>ORI-67</u>	<u>62k 1/2 NE, NW, glac.</u>
	<u>ORI-92</u>	<u>62k 1/2 SE, SW, glac.</u>
	<u>OB-38</u>	<u>100k SE, SW, partial.</u>
<u>Newark</u>	<u>HA-44</u>	<u>62k Complete. Floods.</u>
	<u>ORI-59</u>	<u>62k Complete, glac.</u>
<u>Newark 15'</u>		<u>62k See Andover, Hichman, Newark, Utica.</u>
<u>Newcomerstown</u>	<u>OB-55</u>	<u>62k Complete, bedrock</u>
<u>Newcomerstown 15'</u>		<u>62k See Baltic, Fresno, Newcomerstown, Stone Creek.</u>
<u>Newport</u>	<u>OB-19</u>	<u>Partial.</u>
<u>Newton Falls</u>	<u>ORI-80</u>	<u>62k 9/10 NE, NW, glac.</u>
	<u>ORI-125</u>	<u>62k 9/10 NE, NW, S&G.</u>
<u>Nimshillen Creek</u>	<u>HA-50</u>	<u>62k Complete, Canton 7.5, Floods.</u>
<u>North Canton</u>	<u>ORI-98</u>	<u>62k 1/2 NW.</u>
	<u>ORI-109</u>	<u>62k 1/2 NW, surf.</u>
	<u>ORI-123</u>	<u>62k 1/2 NW, glac.</u>
<u>North Olmstead</u>	<u>ORI-134</u>	<u>62k 5/6 NE, SE, glac. & surf. c/w OB-68</u>
<u>North Kingsville</u>	<u>ORI-112</u>	<u>62k Complete, glac.</u>
	<u>ORI-128</u>	<u>62k Complete, S&G.</u>
<u>North Lewisburg</u>	<u>ORI-111</u>	<u>62k 7/8 SE, SW, glac.</u>
<u>North Olmstead</u>	<u>ORI-134</u>	<u>62k 5/6 NE, SE, glac. & surf. c/w OB-68</u>

<u>Quad Name</u>	<u>Publication</u>	<u>Scale</u>	<u>Coverage</u>
<u>Northfield</u>	<u>ORI-98</u>	62k	<u>1/2 SE.SW.</u>
	<u>ORI-109</u>	62k	<u>1/2 SE.SW glac.</u>
	<u>ORI-123</u>	62k	<u>1/2 SE.SW glac.</u>
	<u>ORI-134</u>	62k	<u>1/2 NW.NE. glac.</u>
<u>Northville</u>	<u>ORI-111</u>	62k	<u>c/w OB-68</u> <u>9/10 SW. glac.</u>
	<u>ORI-136</u>	62k	<u>9/10 NW.SW.SE. S&G.</u>
<u>Norwalk 15'</u>		62k	<u>See Greenwich.</u> <u>Monroeville, Norwalk,</u> <u>& Willard.</u>
<u>Norwich</u>	<u>OB-21</u>	62k	<u>Complete.</u>
<u>Nova</u>	<u>ORI-101</u>	62k	<u>1/2 SE.SW. glac.</u>
<u>Oak Harbor 15'</u>		62k	<u>See Lacarne, Metzger</u> <u>Marsh & Oak Harbor.</u>
<u>Oak Hill 15'</u>		62k	<u>See Gallia, Oak Hill,</u> <u>Petersburg, South</u> <u>Webster.</u>
<u>Oberlin 15'</u>		62k	<u>See Avon, Grafton, Lorain,</u> <u>& Oberlin.</u>
<u>Octa 15'</u>		62k	<u>See Bowersville.</u> <u>Jamestown, Jefferson-</u> <u>ville, Milledgeville.</u>
<u>Olentangy River</u>	<u>HA-52</u>	31k	<u>Complete. Columbus.</u> <u>Floods.</u>
<u>Olivesburg</u>	<u>ORI-101</u>	62k	<u>1/3 NE.SE. glac.</u>
<u>Orangeville</u>	<u>ORI-80</u>	62k	<u>9/10 NW.SW. glac.</u>
	<u>ORI-125</u>	62k	<u>9/10 NW.SW. S&G.</u>
	<u>ORI-61, 62</u>	62k	<u>Complete. bed., glac.</u>
<u>Orrville</u>	<u>ORI-112</u>	62k	<u>Complete. glac.</u>
<u>Orwell</u>	<u>ORI-128</u>	62k	<u>Complete. S&G.</u>
<u>Ottawa 15'</u>		62k	<u>See Hamlet, Miller City,</u> <u>New Bavaria, & Ottawa</u>
<u>Otway 15'</u>		62k	<u>See Otway, Rarden,</u> <u>Wakefield, West</u> <u>Portsmouth.</u>
<u>Oxford</u>	<u>OB-19</u>	62k	<u>Partial.</u>
<u>Oxford 15'</u>		62k	<u>See Eaton South, Oxford,</u> <u>West Alexandria, West</u> <u>Elkton.</u>
<u>Painesville</u>	<u>ORI-117</u>	62k	<u>7/8 NE.NW. glac.</u>
<u>Paint Creek</u>	<u>ORI-140</u>	62k	<u>1/8 SE.SW. glac.</u>
	<u>HA-45</u>	24k	<u>Complete. Chillicothe.</u> <u>Floods.</u>
<u>Paradise</u>	<u>GQ-1173</u>	24k	<u>Complete.</u>
<u>Parkersburg</u>	<u>OB-66</u>	62k	<u>Complete. bed.</u>
<u>Parkersburg 15'</u>		62k	<u>See Fleming, Little</u> <u>Hocking, Parkersburg,</u> <u>Watertown</u>
<u>Paulding 15'</u>		62k	<u>See Antwerp, Latty,</u> <u>Paulding, Payne,</u> <u>Woodbury North & South</u>

<u>Quad Name</u>	<u>Publication</u>	<u>Scale Coverage</u>
<u>Pavonia</u>	<u>ORI-88</u>	62k 3/4 NW,SE,SW, glac.
	<u>ORI-101</u>	62k 1/8 NE, glac.
<u>Peebles 15'</u>		62k See Blue Creek, Jaybird, Lynx, Peebles.
<u>Peninsula</u>	<u>ORI-98</u>	62k Complete.
	<u>ORI-109</u>	62k Complete, surf.
	<u>ORI-123</u>	62k Complete, glac.
<u>Perry</u>	<u>ORI-117</u>	62k Complete, glac.
<u>Perry 15'</u>		62k See Madison & Perry.
<u>Perrysville</u>	<u>ORI-88</u>	62k 1/8 SW, glac.
	<u>ORI-101</u>	62k 3/4 NE,SE, glac.
<u>Perrysville 15'</u>		62k See Butler, Jelliway, Lucas, & Perrysville.
<u>Perryton</u>	<u>OB-59</u>	62k Slight, NW, bed., glac.
<u>Philo</u>	<u>OB-56</u>	62k 1/6 SE,SW,bed.& min. res.
	<u>OB-21</u>	62k 1/6 NE,NW.
<u>Philo 15'</u>		62k See Norwich, Philo, Ruraldale, Zanesville East
<u>Pierpoint</u>	<u>ORI-112</u>	62k Partial, glac.
	<u>ORI-128</u>	62k Complete, S&G.
<u>Piketon 15'</u>		62k See Latham, Morgantown, Piketon, Summithill.
<u>Pioneer 15'</u>		62k See Blakeslee, Clear Lake, Edon, Montrelier, Nettle Lake, Pioneer.
<u>Point Pleasant 15'</u>		62k See Addison, Cheshire, Gallipolis.
<u>Polk</u>	<u>ORI-101</u>	62k 9/10 NW,SE,SW, glac.
	<u>ORI-119</u>	62k 1/8, NE, S&G.
	<u>ORI-133</u>	62k 1/8 NE, S&G.
<u>Pomeroy 15'</u>		62k See Albany, Pomeroy, Rutland, Shade.
<u>Port Jefferson</u>	<u>ORI-111</u>	62k 1/16 SE, glac.
<u>Port William</u>	<u>ORI-67</u>	62k 1/2 SE,SW, glac.
<u>Portsmouth</u>	<u>GQ-312</u>	24k Complete.
<u>Put-in-Bay 15'</u>		62k See Gypsum, Port Clinton, Put-in-Bay.
<u>Raccoon Creek</u>	<u>HA-44</u>	24k Complete, Newark, Floods
<u>Rainsboro</u>	<u>ORI-92</u>	62k Complete, NW,SE,SW, glac.
	<u>ORI-127</u>	62k Slight, NE, glac.
	<u>OB-38</u>	100k Complete, bed.
<u>Raven Rock</u>	<u>OB-66</u>	62k Complete, bed.
<u>Ravenna</u>	<u>ORI-114</u>	62k Complete, S&G.
	<u>ORI-126</u>	62k Complete, S&G.
<u>Ravenna 15'</u>		62k See Atwater, Deerfield, Ravenna & Windham.
<u>Ravenswood 15'</u>		62k See Mount Alto, New Haven, Ravenswood.
<u>Reily</u>	<u>OB-19</u>	62k Partial.
<u>Reinersville</u>	<u>OB-56</u>	62k 7/8 NE,SW,SE, bed.
<u>Reynoldsburg</u>	<u>ORI-59</u>	64k 1/8 NE, glac.

<u>Quad Name</u>	<u>Publication</u>	<u>Scale Coverage</u>
<u>Richmond</u>	<u>OB-35</u>	<u>62k Complete.</u>
<u>Richmonddale</u>	<u>ORI-127</u>	<u>62k 1/2 NW, glac.</u>
<u>Richwood 15'</u>		<u>62k See Magnetic Spring, Peoria, Richwood, York Center.</u>
<u>Rinard Mills</u>	<u>OB-66</u>	<u>62k 2/3 SE,SW, bed.</u>
<u>Ringgold</u>	<u>OB-56</u>	<u>62k Complete, bed.</u>
<u>Rittman</u>	<u>ORI-61, 62</u>	<u>62k 7/8 SE,SW, bed. & glac.</u>
	<u>ORI-119</u>	<u>62k 1/8 NE,NW, S&G.</u>
	<u>ORI-133</u>	<u>62k 1/8 NE,NW, S&G.</u>
	<u>ORI-141</u>	<u>62k Partial, glac.</u>
<u>Rokeby Lock</u>	<u>OB-56</u>	<u>62k Complete, bed.</u>
<u>Roxabell 15'</u>		<u>62k See Andersonville, Frank- fort, Bourneville, Chillicothe West.</u>
<u>Ruraldale</u>	<u>OB-56</u>	<u>62k 1/8 SE,SW, bed.</u>
	<u>OB-21</u>	<u>62k 1/8 NE,NW.</u>
<u>Rushville</u>	<u>OB-48</u>	<u>62k 1/2 NE,SE, bed.</u>
<u>Russellville</u>	<u>OFRI 84-1</u>	<u>= Manuscript</u>
<u>Sabina</u>	<u>ORI-67</u>	<u>62k Complete, glac..</u>
<u>Sabina 15'</u>		<u>62k See Leesburg, Memphis, New Vienna, Sabina</u>
<u>St. Clairsville 15'</u>		<u>62k See Dillonvale, Harrisville, Lansing, St. Clairsville.</u>
<u>Saint Henry 15'</u>		<u>62k See Coldwater, Montezuma, North Star, Rossburg.</u>
<u>Saint Marys 15'</u>		<u>62k See Ben's Run, Raven Rock</u>
<u>Saint Paris</u>	<u>ORI-111</u>	<u>62k Complete, S&G.</u>
	<u>ORI-136</u>	<u>62k Complete, S&G.</u>
<u>Saint Paris 15'</u>		<u>62k See Northville, Saint Paris, Thackeray, Urbana West.</u>
<u>Salem</u>	<u>ORI-129</u>	<u>62k 1/4 SE,SW, glac.</u>
	<u>ORI-131</u>	<u>62k 1/4 SE,SW, S&G.</u>
	<u>ORI-139</u>	<u>62k 3/4 NE,NW, glac.</u>
<u>Salineville</u>	<u>ORI-129</u>	<u>62k 1/4 NE, glac.</u>
	<u>OB-35</u>	<u>62k 3/4 SE,SW.</u>
<u>Salineville 15'</u>		<u>62k See Bergholz, Gavers, Kensington, Salineville.</u>
<u>Sandusky 15'</u>		<u>62k See Huron, Kimball, Milan, Sandusky.</u>
<u>Sardinia</u>	<u>ORI-92</u>	<u>62k 7/8 NE,NW, glac.</u>
	<u>OB-38</u>	<u>100k 7/8 NE,NW.</u>
<u>Sardinia 15'</u>		<u>62k See Fayetteville, Lynchburg, Mount Orab, Sardinia.</u>
<u>Scio 15'</u>		<u>62k See Bowerstown, Deersville, Jewett, Scio.</u>

<u>Quad Name</u>	<u>Publication</u>	<u>Scale</u>	<u>Coverage</u>
<u>Scioto River</u>	<u>HA-45</u>	<u>24k</u>	<u>Complete. Chillicothe</u> <u>7.5. Floods.</u>
	<u>HA-48</u>	<u>12k</u>	<u>Partial. Circleville</u> <u>7.5. Floods.</u>
	<u>HA-52</u>	<u>31k</u>	<u>Complete. Columbus 7.5.</u> <u>Floods.</u>
<u>Sciotoville 15'</u>		<u>62k</u>	<u>See Lucasville, Minford,</u> <u>New Boston, Stockdale</u>
<u>Seaman 15'</u>		<u>62k</u>	<u>See Decatur, Seaman,</u> <u>Winchester & West Union.</u>
<u>Seville</u>	<u>ORI-119</u>	<u>62k</u>	<u>Complete, S&G.</u>
	<u>ORI-133</u>	<u>62k</u>	<u>Complete, S&G.</u>
	<u>ORI-141</u>	<u>62k</u>	<u>Complete, glac.</u>
<u>Shade</u>	<u>OB-57</u>	<u>62k</u>	<u>1/2 NE,NW, min. res.</u> <u>& bed.</u>
<u>Shaker Heights</u>	<u>ORI-134</u>	<u>62k</u>	<u>Complete, glac. & surf.</u>
<u>Shandon</u>	<u>OB-19</u>		<u>Partial.</u>
<u>Sharon West</u>	<u>ORI-80</u>	<u>62k</u>	<u>9/10 NW, glac.</u>
	<u>ORI-125</u>	<u>62k</u>	<u>Complete, S&G.</u>
<u>Sharp's Fork</u>	<u>HA-324</u>	<u>12k</u>	<u>Partial. Amesville. Floods</u>
<u>Shauck 15'</u>		<u>62k</u>	<u>See Belleville, Blooming</u> <u>Grove, Mansfield South,</u> <u>Shauck.</u>
<u>Shelby</u>	<u>ORI-88</u>	<u>62k</u>	<u>7/8 NE,SE, glac.</u>
<u>Shiloh</u>	<u>ORI-88</u>	<u>62k</u>	<u>7/8 SE,SW, bed.</u>
<u>Shreve</u>	<u>OB-47</u>	<u>62k</u>	<u>1/3 SE,SW, bed.</u>
	<u>ORI-61, 62</u>	<u>62k</u>	<u>2/3 NE,NW, bed., glac.</u>
<u>Siam 15'</u>		<u>62k</u>	<u>See Attica, Centerton,</u> <u>Fireside, Flat Rock.</u>
<u>Sidney 15'</u>		<u>62k</u>	<u>See Botkins, Jackson</u> <u>Center, Port Jefferson,</u> <u>Sidney.</u>
	<u>ORI-92</u>	<u>62k</u>	<u>2/3 NE,NW, glac.</u>
<u>Sinking Spring</u>	<u>OB-38</u>	<u>100k</u>	<u>2/3 NW,NE.</u>
<u>Smithfield</u>	<u>OB-35</u>	<u>62k</u>	<u>Complete, bed.</u>
<u>Somerset</u>	<u>OB-48</u>	<u>62k</u>	<u>Complete, bed.</u>
<u>South Bloomingville</u>	<u>ORI-63</u>	<u>24k</u>	<u>Complete, bed.</u>
<u>South Charleston</u>	<u>ORI-137</u>	<u>62k</u>	<u>3/4 NE,NW, S&G.</u>
<u>South Charlestown 15'</u>		<u>62k</u>	<u>See Florence, New</u> <u>Moorefield, South</u> <u>Charleston, Vienna.</u>
<u>South Russell</u>	<u>ORI-140</u>	<u>62k</u>	<u>Complete, glac.</u>
<u>South Salem</u>	<u>ORI-127</u>	<u>62k</u>	<u>Complete, glac.</u>
<u>Southington</u>	<u>ORI-80</u>	<u>62k</u>	<u>Complete, glac.</u>
	<u>ORI-125</u>	<u>62k</u>	<u>Complete, S&G.</u>
<u>Spencerville 15'</u>		<u>62k</u>	<u>See Elgin, Mobilton,</u> <u>Spencerville, St. Marys.</u>
<u>Spring Mountain</u>	<u>OB-47</u>	<u>62k</u>	<u>1/3 NE,NW, bed.</u>
<u>Springboro</u>	<u>ORI-135</u>	<u>62k</u>	<u>1/4 NE,NW, S&G.</u>
<u>Springdale 15'</u>		<u>62k</u>	<u>See Manchester Island,</u> <u>Maysville East.</u>

<u>Quad Name</u>	<u>Publication</u>	<u>Scale</u>	<u>Coverage</u>
<u>Springfield</u>	<u>HA-43</u>	<u>24k</u>	<u>Complete. Floods.</u>
<u>Springfield 15'</u>	<u>ORI-137</u>	<u>62k</u>	<u>Complete. S&G.</u>
<u>Steubenville E.</u>	<u>OB-35</u>	<u>62k</u>	<u>See Clifton, Donnellsville,</u>
<u>Steubenville 15'</u>		<u>62k</u>	<u>Springfield, Yellow Springs</u>
<u>Steubenville W.</u>	<u>OB-35</u>	<u>62k</u>	<u>1/8 NW, NC.</u>
<u>Stewart</u>	<u>OB-57</u>	<u>62k</u>	<u>See Knoxville, Steuben-</u>
<u>Stockport</u>	<u>OB-56</u>	<u>62k</u>	<u>villes East & West, Weirton</u>
<u>Stonecreek</u>	<u>OB-55</u>	<u>62k</u>	<u>Complete.</u>
<u>Strasburg</u>	<u>OB-55</u>	<u>62k</u>	<u>Complete, bed.</u>
<u>Suffield</u>	<u>ORI-114</u>	<u>62k</u>	<u>Complete, S&G.</u>
<u>Sugar Creek</u>	<u>ORI-126</u>	<u>62k</u>	<u>Complete, S&G.</u>
<u>Sugar Tree Ridge</u>	<u>OB-47</u>	<u>62k</u>	<u>2/3 NW, SW, bed.</u>
	<u>OB-55</u>	<u>62k</u>	<u>2/3 NE, SE, bed.</u>
	<u>ORI-92</u>	<u>62k</u>	<u>Partial, glac.</u>
	<u>OB-38</u>	<u>100k</u>	<u>NE, NW.</u>
<u>Sullivan</u>	<u>ORI-101</u>	<u>62k</u>	<u>1/4 SW glac.</u>
	<u>ORI-119</u>	<u>62k</u>	<u>1/2 NE, SE, S&G.</u>
	<u>ORI-133</u>	<u>62k</u>	<u>1/2 NE, SE, surf.</u>
	<u>ORI-141</u>	<u>62k</u>	<u>1/2 NE, SE glac., c/w OB-68</u>
<u>Summerfield 15'</u>		<u>62k</u>	<u>See Quaker City, Sarahs-</u>
			<u>ville, Senecaville,</u>
			<u>Summerfield.</u>
<u>Summithill</u>	<u>ORI-127</u>	<u>62k</u>	<u>1/2 NE, NW, glac.</u>
<u>Swanton 15'</u>		<u>62k</u>	<u>See Assumption, Berkey,</u>
			<u>Swanton, Whitehouse</u>
<u>Sycamore 15'</u>		<u>62k</u>	<u>See Lykens, Nevada,</u>
			<u>Oceola, Sycamore.</u>
<u>Thackery</u>	<u>ORI-111</u>	<u>62k</u>	<u>3/4 NE, NW, glac.</u>
	<u>ORI-136</u>	<u>62k</u>	<u>3/4 NE, NW, S&G.</u>
	<u>ORI-137</u>	<u>62k</u>	<u>1/4 SE, SW S&G.</u>
<u>The Plains</u>	<u>OB-57</u>	<u>62k</u>	<u>Complete.</u>
<u>Thompson</u>	<u>ORI-117</u>	<u>62k</u>	<u>1/3 NE, NW, glac.</u>
	<u>ORI-128</u>	<u>62k</u>	<u>Complete, S&G.</u>
	<u>ORI-140</u>	<u>62k</u>	<u>2/3 SE, SW, glac.</u>
<u>Thornville</u>	<u>OB-48</u>	<u>62k</u>	<u>1/4 SE, bed.</u>
	<u>ORI-59</u>	<u>62k</u>	<u>3/4 NE, NW, glac.</u>
<u>Thornville 15'</u>		<u>62k</u>	<u>See Glenford, Rushville,</u>
			<u>Somerset, Thornville.</u>
<u>Thurston 15'</u>		<u>62k</u>	<u>See Baltimore, Carroll,</u>
			<u>Mullersport, Pataskai.</u>
<u>Tiffin 15'</u>		<u>62k</u>	<u>See Bloomville, Tiffins</u>
			<u>North & South, Watson</u>
<u>Tiltonsville</u>	<u>OB-35</u>	<u>62k</u>	<u>1/2 W, NC, bed.</u>
<u>Tippicanoe</u>	<u>OB-55</u>	<u>62k</u>	<u>1/2 NE, SW, bed.</u>
<u>Toledo 15'</u>		<u>62k</u>	<u>See Maumee, Rossford,</u>
			<u>Sylvania, & Toledo.</u>
<u>Toruso</u>	<u>ORI-59</u>	<u>62k</u>	<u>1/3 NW, SW, glac.</u>
<u>Trenton</u>	<u>OB-19</u>	<u>62k</u>	<u>Complete.</u>

<u>Quad Name</u>	<u>Publication</u>	<u>Scale Coverage</u>
<u>Troy 15'</u>		62k See Christiansburg, Fletcher, Piqua East, Troy
<u>Tuscarawas R.</u>	HA-49	24k Complete. Akron West 7.5. Floods.
<u>Twinsburg</u>	ORI-98	62k 3/4 SW, S&G.
	ORI-109	62k 3/4 SW, surf.
	ORI-114	62k 1/4 NE, SE, S&G.
	ORI-123	62k 3/4 SW glac., c/w OB-68.
	ORI-126	62k 1/4 NE, NW, S&G.
	ORI-134	62k 1/4 NW, glac., surf.
	ORI-140	62k 1/16 slight NE, glac.
<u>Uhrichtsville</u>	OB-55	62k 7/8 NW, SW, bed.
<u>Uhrichtsville 15'</u>		62k See Gnadenhutten, New Philadelphia, Stone Creek, Tippicanoe.
<u>Union Furnace</u>	OB-57	62k 1/4 SE, min. res. bed.
<u>Upper Sandusky 15'</u>		62k See Carey, McKutchenville, Upper Sandusky, Weirton.
<u>Urbana East</u>	ORI-111	62k Most of Q., glac.
	ORI-136	62k 3/4 NE, NW, S&G.
	ORI-137	62k Slight, SW, S&G.
<u>Urbana West</u>	ORI-111	62k 3/4 NE, NW, glac.
	ORI-136	62k 3/4 NE, NW, S&G.
<u>Utica</u>	OB-59	62k 1/10 NE, NW, bed., glac.
	ORI-59	62k 9/10 SE, SW, glac.
<u>Vales Mills</u>	OB-57	62k Slight NE bed.
<u>Valley Mills</u>	OB-66	62k 1/10 NE, geol., min. res.
<u>Van Wert 15'</u>		62k See Convoy, Dixon, Scott, Glenmore, Van Wert, Wren
<u>Vanceburg</u>	GQ-598	24k Complete. Ky-Ohio.
<u>Vanceburg 15'</u>		62k See Buena Vista, Concord, Vanceburg.
<u>Vermillion 15'</u>		62k See Berlin Heights, Ripton, Vermillions East & West.
<u>Vermillion W.</u>	ORI-60	24k Complete.
<u>Wadsworth</u>	ORI-98	62k 1/2 NE, SE, glac.
	ORI-109	62k 1/2 NE, SE, surf.
	ORI-119	62k 1/2 NW, SW, S&G.
	ORI-123	62k 1/2 NE, SE, glac.
	ORI-133	62k 1/2 NW, SW, S&G.
	ORI-141	62k 1/2 NW, SW, glac.
<u>Walhoning</u>	OB-59	62k 1/2 NW, SW, glac.
<u>Warren</u>	HA-51	24k Complete. Warren 7.5. Floods.
	ORI-80	62k Complete, glac.
	ORI-125	62k Complete, S&G.
<u>Warren 15'</u>		62k See also Canfield, Lake Milton, Newton Falls, Warren.

<u>Quad Name</u>	<u>Publication</u>	<u>Scale Coverage</u>
<u>Watertown</u>	<u>OB-56</u>	<u>62k Slight, NW, min. res., bed.</u>
	<u>OB-66</u>	<u>62k Most of Q, NE, SE, SW, min. res., bed.</u>
<u>Wauseon 15'</u>		<u>62k See Delta, Lyons, Morenci, Wauseon.</u>
<u>Waverly 15'</u>		<u>62k See Beaver, Richmond, Waverlys North & South.</u>
<u>Waverly North</u>	<u>ORI-127</u>	<u>62k 1/2 NE, NW, glac.</u>
<u>Waynesburg</u>	<u>OB-55</u>	<u>62k 1/8 SW, bed.</u>
<u>Waynesville 15'</u>		<u>62k See Bellbrook, Dayton South, Springboro, Waynesville.</u>
<u>Weirton</u>	<u>OB-35</u>	<u>62k 1/8 NW, SW, bed.</u>
<u>Wellington</u>	<u>ORI-133</u>	<u>62k Slight, SE, S&G.</u>
<u>Wellington 15'</u>		<u>62k See La Grange, Lode, Sullivan, Wellington</u>
<u>Wellsville</u>	<u>OB-35</u>	<u>62k 1/4 SE, SW, partial.</u>
	<u>ORI-129</u>	<u>62k 1/4 NW, glac.</u>
	<u>ORI-131</u>	<u>62K 1/4 NW, glac.</u>
<u>Wellsville 15'</u>		<u>62k See E. Liverpool, North & South, Wellsville, West Point.</u>
<u>West Cincinnati 15'</u>		<u>62k See Addyston, Burlington, Cincinnati West, Covington.</u>
<u>West Columbus 15'</u>		<u>62k See Commercial Point, Galloway, Harrisburg, Columbus.</u>
<u>West Elkton</u>	<u>OB-19</u>	<u>62k Complete.</u>
<u>West Farmington</u>	<u>ORI-80</u>	<u>62k Complete, glac.</u>
	<u>ORI-125</u>	<u>62k Complete, S&G.</u>
<u>West Manchester 15'</u>		<u>62k See Arcanum, Eaton North</u>
<u>Lewisburg, New Madison,</u>		
<u>West Mansfield</u>	<u>ORI-69</u>	<u>24k Complete, glac.</u>
<u>West Point</u>	<u>ORI-129</u>	<u>62k Complete, glac.</u>
	<u>ORI-131</u>	<u>62k Complete, S&G.</u>
<u>W. Richfield</u>	<u>ORI-98</u>	<u>62k 1/2 NE, SE.</u>
	<u>ORI-119</u>	<u>62k 1/2 NE, SE, S&G.</u>
	<u>ORI-123</u>	<u>62k 1/2 NE, SE, glac.</u>
	<u>ORI-133</u>	<u>62k 1/2 NE, SE, S&G.</u>
	<u>ORI-141</u>	<u>62k 1/2 NW, SW, glac.</u>
<u>West Salem</u>	<u>ORI-61, 62</u>	<u>62k 7/8 SE, SW, bed., glac.</u>
	<u>ORI-119</u>	<u>62k 1/8 NE, NW, S&G.</u>
	<u>ORI-133</u>	<u>62k 1/2 NE, SE, S&G.</u>
	<u>ORI-141</u>	<u>62k 1/8 NE, NW, glac.</u>
<u>West Salem 15'</u>		<u>62k See Jeromesville, Pittsburg, Polk, West Salem.</u>
<u>Westerville 15'</u>		<u>62k See Galena, New Albany, Northeast Columbus, Sunbury.</u>

<u>Quad Name</u>	<u>Publication</u>	<u>Scale Coverage</u>
<u>Westfield Center (LeRoy)</u>	<u>ORI-119</u>	<u>62k Complete, S&G.</u>
	<u>ORI-133</u>	<u>62k 1/4 SE, S&G.</u>
	<u>ORI-141</u>	<u>62k Complete, glac.</u>
<u>West View</u>	<u>ORI-119</u>	<u>62k 3/4 SE, glac.</u>
	<u>ORI-134</u>	<u>62k 1/4 NE, glac.</u>
	<u>ORI-141</u>	<u>62k 1/4 SE, glac., c/w OB-68</u>
<u>Wheeling 15'</u>		<u>62k See Tiltonsville, Wheeling.</u>
<u>Wilkesville 15'</u>		<u>62k See Mulga, McArthur, Vales Mills, Wilkesville.</u>
<u>Williamsport</u>	<u>ORI-127</u>	<u>62k Slight, NW, glac.</u>
<u>Willow Island</u>	<u>OB-66</u>	<u>62k Complete, bed.</u>
<u>Wilmington</u>	<u>ORI-67</u>	<u>62k Complete, glac.</u>
<u>Wilmot</u>	<u>OB-47</u>	<u>62k 1/3 SW, bed., c/w OB-68</u>
	<u>OB-55</u>	<u>62k Slight, SE, bed.</u>
	<u>ORI-61, 62</u>	<u>62k 1/2 NW, bed., glac.</u>
	<u>ORI-91</u>	<u>62k 1/3 SW, glac.</u>
<u>Winchester 15'</u>		<u>62k See Spartanburg, Union City.</u>
<u>Windham</u>	<u>ORI-80</u>	<u>62k 1/10 NE, glac.</u>
	<u>ORI-114</u>	<u>62k Complete, S&G.</u>
	<u>ORI-126</u>	<u>62k Complete, S&G.</u>
<u>Windsor</u>	<u>ORI-112</u>	<u>62k Complete, glac.</u>
	<u>ORI-128</u>	<u>62k Complete, S&G.</u>
<u>Withamsville</u>	<u>OB-19</u>	<u>Partial.</u>
	<u>ORI-120</u>	<u>24k Complete, bed.</u>
<u>Wolf Creek</u>	<u>HA-49</u>	<u>24k Complete, Akron West 7.5, Floods.</u>
<u>Woodsfield 15'</u>		<u>62k See Barnesville, Hunter, Lewisville, Woodsfield.</u>
<u>Wooster</u>	<u>ORI-61, 62</u>	<u>62k Complete, bed., glac., econ.</u>
<u>Wooster 15'</u>		<u>62k See Creston, Orrville, Rittman, Wooster.</u>
<u>Xenia 15'</u>		<u>62k See Cedarville, Port William, New Burlington, Xenia.</u>
<u>Yellow Springs</u>	<u>ORI-137</u>	<u>62k 1/4 NE, NW, S&G.</u>
<u>Youngstown</u>	<u>HA-56</u>	<u>2.4k Partial, Floods.</u>
	<u>ORI-139</u>	<u>62k Complete, glac.</u>
<u>Youngstown 15'</u>		<u>62k See Campbell, Girard, Sharon West, Youngstown</u>
<u>Zaleski 15'</u>		<u>62k See Mineral, New Plymouth, Union Furnace, Zaleski.</u>
<u>Zanesville</u>	<u>HA-46</u>	<u>12k Partial, Zanesville 7.5, Floods.</u>
	<u>OB-21</u>	<u>62k Complete.</u>
<u>Zanesville 15'</u>		<u>62k See Crooksville, Fultonham, Gratiot, Zanesville West.</u>

CONVENTIONS

Are you hosting a forthcoming convention? Please let your IB Editor know your plans (no matter how preliminary), so that prospective attenders will be able to plan well ahead.

August 20-25, 1990 Report on the meetings of the Section of Geography and Map Libraries of IFLA (from *Newsletter* no. 31): 8/21, tour of Map Division in the Kungsbiblioteket. Paper session on 8/22, theme, "Maps and Spatial Information Resources;" Goran Baarnhielm and Walter Arnberg on "Map catalogue and graphic interface from the PC version of the Swedish National Atlas" (PC version, price estimated at 1,000 SEK, is intended for general public, schools, libraries), Peter Ochman on "Digital mapping on CD-ROM," and Hans van de Waal on "Documentation and integrated cartographic systems." On 8/23, there was a full-day workshop on "Maps and Spatial Information Services - with 5 papers, "Geographic data bases at the Land Survey of Sweden," "Spatial information in Sweden from the viewpoint of the researcher," "Map production at Esselte," "Map production in the city of Stockholm," and "Presentation of the National Atlas of Sweden," in the afternoon, demonstrations of Swedish computerized maps were given. In the business meetings, much occurred, including the following: program for Moscow 1991 is "Maps for Society," and for Delhi in 1992, "The Profession of Map Librarianship;" the Manual for map libraries will probably be completed in 1991; draft section on microforms has been completed by Ralph Ehrenberg and David Carrington; three editors have been appointed to analyze the questionnaires for the proposed equipment and space manual; the final draft for the next edition of the *World Directory of Map Libraries* should be completed in 1990; consideration of a volume on the impact of changing technologies, formats and economic conditions is underway (Ralph Ehrenberg and Tony Campbell).

May 31-June 3, 1991 Joint Annual Meeting of the Canadian Cartographic Association and the Ontario Institute of Chartered Cartographers, Brock University & SUNY-Buffalo; sessions on general topics, IDRISI special topics, data issues, atlas cartog-

raphy, semiology/cognition, education & training, GIS, NCGIA (National Center for Geographic Information and Analysis) research. For further information, G. Hughes, Dept. of Geography, Brock University, St. Catharines, Ontario L2S 3A1, CANADA

June 1, 1991 Spring meeting of the California Map Society, San Diego State University; sessions on "GIS and Fire," "Historical Geography of San Pedro Bay through Maps and Aerial Photography" (by IB Book Review Editor Greg Armento), "Efficient Generation of GIS Land Cover Files with Raster-Vector Integration," followed by tour of GIS facilities at the Dept. of Geography, and a business meeting.

June and July were busy months, with (as usual) both the Special Libraries Association and the American Libraries Association meeting, within 2 weeks of each other. Your Editor attended 2 days of the SLA conference (in San Antonio); this was the 50th anniversary of SLA's Geography and Map Division, and Johnnie Sutherland did an excellent job at putting together an appropriate program. The Banquet was marked by much laughter, photographs, wearable cartifacts (Johnnie's sombrero with the dangling globes was probably the most delightfully tasteless), an informal history of the Division (as gleaned from the pages of the *Bulletin*), presentation of certificates to past chairpersons in attendance, and a chocolate Texas for dessert. Your Editor was busily collaborating with Helen Armstrong in writing the final version of the paper she & Helen were to give on the Wednesday of the conference (June 8-13) so she missed the tours. Papers were as good as ever, and will (we hope) all be published in the *Bulletin* - "Latinos in the Development of San Antonio: The Story of Gregorio Esparza and Pedro Huizar" (Diana Rivera), a contributed-papers session with Muriel Strickland as moderator and as speakers Robert S. Allen (Purdue), Alta Beach (NYS Museum), and Chris Baruth (U of Wisconsin-Milwaukee), "Maps and the Past" (Alice Hudson; of Sydney, and to view University's Map Library; discussion group & workshop on AMC issues and

future planning; technical tour, Australia Map Industry, "Map Fair" Deposit of 1/3 of total accomodation cost is required by 4/15/91 and the balance by 9/15/91. Full conference registrants before 10/1/91 is \$180; after that, \$221. Convener: John E. Roberts, Department of Geography, University of Sydney, Sydney, NSW, 2006, AUSTRALIA; 'phone (02)692 2552; fax (02) 692 3644.

April 27-30, 1992 AM/FM [Automated Mapping/Facilities Management] International Conference, San Antonio; AM/FM International, c/o Base Services, 8775 E. Orchard Road, Suite 819, Englewood CO 80111; 303/779-0015.

April 30-May 2, 1992 WAML, California State University, Chico; see elsewhere in this issue for further information.

WAML. Hawaii - November 4-7, 1992. WAML Fall meeting, Hawaii. Riley Moffat says: Start saving your pocket change for **WAML's 25th anniversary meeting** in Hawaii. Right now I'm looking at our traditional day and a half of meetings split between BYU in Laie and Bishop Museum in Honolulu. I'd like to plan a full-day field trip to the Big Island to check out the volcanoes; right now I think we could do that for about \$80 per person. Besides hearing about local mapping projects I'd like to see some reminiscences in honor of our silver anniversary, or reviews of the profession. Expect plenty of food, fun, and sun. Riley Moffat, Division of Learning Resources, Brigham Young University, Box 1966, Laie HI 96762; 808/293-3850.

Combine two biggies:

1. August 2-14, 1992, XVII Congress for ISPRS (International Society for Photogrammetry and Remote Sensing), Washington, D.C.: ISPRS 1992

Congress, P.O. Box 7147, Reston VA 22091-7147.
2. August 9-14, 1992 27th International Geographical Congress, Washington, D.C.: the biggest, the best - the prospectus alone is nearly 1/2" thick, and includes a colorful separate handout that has that National-Geographic-Society look. Dr. Anthony R. de Souza, Secretary General, 27th International Geographical Congress, 1145 17th Street, N.W., Washington, D.C. 20036.

February 8-11, 1993 Ninth Thematic Conference on Geologic Remote Sensing: Exploration, Environment, and Engineering, Pasadena CA. Contact: Nancy Wallman, ERIM, POB 134001, Ann Arbor MI 48113-4001; 313/994-1200 x3234; fax, 313/994-5123.

Spring 1993 WAML at San Francisco

Late spring (or thereabouts), **1993 ACMLA** at St. Johns, Newfoundland

Fall 1993 WAML at Albuquerque NM

October 22-23, 1991 Thir Annual Conference, Earth Observations and Global Change Decision making: A National Partnership, Washington, DC. Contact: Dr. Robert H. Rogers, ERIM, POB 8618, Ann Arbor MI 48107-8618; 313/994-1200 x3234; fax 313/994-5123.

Spring 1994 WAML at Riverside CA

Fall 1994 WAML at Jackson Hole WY (co-sponsored by University of Wyoming and University of Idaho)

Late spring 1995 WAML meets with ACMLA at Vancouver

PRESERVATION

General instructions for physical preservation of data on tape: generally dust-free; vertical storage in polythene bag and box; temperature of 18 degrees C. (plus or minus 1 degree C.); relative humidity of 40% (plus or minus 5%); replay and rewind every year (low acceleration); if recording, rewinding or replaying must occur outside storage facility, 4 days acclimatization should be allowed both before and after transport, during which periods the tapes should be stored unsealed.

New publication: Preservation of library and archival materials. \$27 for nonmembers of the Association of Higher Education Facilities Officers; APPA Publications, Dept. LIB, POB 753, Waldorf MD 20604.

EMPLOYMENT

The American Geographical Society Collection of the **University of Wisconsin-Milwaukee** Library is likely to have a temporary (18 months) entry-level opening for a map cataloger. Requirements will include an ALA-accredited MLS and an undergraduate background in geography or cartography. The individual will also be partially involved with the AGS Collection Cartography Videodisk Project funded by DOE. AGS is hopeful that this will become a permanent position. For details, call Dr. Christopher Baruth at 800-558-8993.

The following all have deadlines prior to publication of the IB; they are listed here as a matter of record.

Chief, Geography and Map Division, Library of Congress (\$73,972-\$95,300). The Library of Congress is seeking candidates for the position of Chief. The Chief directs the day-to-day operations of the Geography and Map Division, which is responsible for maps, globes, atlases, 3-dimensional relief models, and manages divisional activities pertaining to these collections, including reference services, cataloging, collection development, liaison, and related research and publishing activities. The Chief also represents the library in national and international associations and conferences relating to geography and cartography, and maintains continuing professional contact with the scholarly world, the library and archives professions, and the publishers of geographic and cartographic materials. **QUALIFIED CANDIDATES MUST HAVE:** high level, specialized experience which demonstrates expertise in geography and cartography sufficient to merit national recognition as an authority in the field, as well as demonstrated effective supervisory and administrative skills. Qualification requirements and application procedures are stated in full in Library of Congress Vacancy Announcement 10403. Applications must be on forms provided by the library and received no later than Sept. 3. For Vacancy Announcement 10403 and forms, call or write: The Library of Congress, Human Resources Operations, Dept. 3, 101 Independence Ave., S.E., Washington, D.C. 20540; 202/707-9147.

Map Librarian - Maps, Microtexts, and Newspapers, Reference Dept., Olin Library, Cornell University. Responsibilities: Exciting opportunity to

develop and promote expanded map services as the John M. Olin Library's cartographic information specialist. As a member of the Reference Dept., manages an extensive map collection of over 191,000 topographic, hydrologic, geologic, political, and road maps, supplemented by a large collection of atlases, gazetteers, charts, globes, and cartobibliographic reference aids. USGS maps and DMA maps are received through the depository program. Provides a full range of map reference and instruction services: general map reference, selection and interpretation of digital maps and datafiles including geographic information systems, user instruction. Interacts with faculty, and plans exhibits and outreach activities. Works closely with the general reference staff and assists in staffing the main reference desk. Responsible for map collection development in concert with subject and area selectors for the library system. Determines map cataloging [sic] and oversees paraprofessional searching of bibliographic records for cataloging copy. Directs student and support staff in providing access to the collection. The Olin Library is the largest of the Cornell Library's 18 libraries, with a collection of 2.6 million volumes and 2 million microforms in the social sciences and humanities. This position provides a unique opportunity to participate in planning for renovated map space and the development of augmented public services in a major building renovation. **QUALIFICATIONS:** MLS degree or equivalent. Degree and/or experience in geography, cartography or related fields. Two to four years relevant experience in an academic, special or public library preferred. Understanding of map cataloging practices. Demonstrated organizational, planning and interpersonal skills. Excellent oral and written communication skills. Experience searching electronic information resources desirable and an interest in working with on-line information systems is essential. **SALARY:** Depends on qualifications and experience. **CLOSING DATE:** Applications requested by August 1, 1991, but will be accepted until position is filled. Contact: Ann Dyckman, Personnel Director, Cornell University Libraries, 235 Olin Library, Ithaca NY 14853-5301. Send cover letter, resume, and list of three references. Cornell University is an Equal Opportunity/Affirmative Action employer. The Cornell University Library is committed to providing a culturally diverse study and work environment, and invites applications from a wide variety of individuals, including members of ethnic minorities.

Mental Maps and Collection Development: a View from Colorado

by

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Introduction

Anyone who has dealt with a library collection of maps has noticed that maps of certain places are in great demand, while maps of other areas are seldom or never requested. The pattern of map use seems to be related to the mental image that people have of the world. This image depends on people's perceptions of which places are near by or far away; which places are desirable and interesting; which places are best avoided; and which places are simply unknown. This mental image helps determine the level of interest in different geographic areas (since people are interested neither in places they have never heard of, nor in places which they think are boring), and so it governs which particular maps are in demand. Thinking about a map collection in terms of perceptual geography can help librarians to clarify the boundaries of the collection for collection development, to set priorities for cataloging and maintenance of maps, and to maintain a collection which will satisfy map users.

Mental Maps

Mental maps are maps that show geographical spaces as people imagine them to be, rather than by their physical dimensions. One famous example of a mental map is Saul Steinberg's drawing of the New Yorker's view of the world which originally appeared on the cover of the March 29, 1976 *New Yorker* magazine. The picture shows a view looking west from Manhattan. The buildings in the foreground are drawn in great detail up to the Hudson river, but beyond that, things become confused and indistinct. New Jersey is nothing but a muddy strip, and the rest of the U.S. is an almost featureless plain with a few uncertain labels: Washington D.C., Chicago, Kansas City, Nebraska, Las Vegas, Utah, Texas, Los Angeles. Beyond the

Pacific Ocean are three barren islands labeled "China", "Japan" and "Russia". Since Steinberg's drawing first appeared, it has been widely imitated with the point of view adapted for other cities throughout the world. An article in *Print* magazine (Treib, 1987) shows Steinberg imitations from, among other places, Paris, Rome, Princeton (New Jersey), and Houston (Texas). I have even seen a Steinberg imitation of Durango, Colorado (where I live). In that drawing, Durango is shown located in a pleasant mountain range which is surrounded in all directions by an expansive desert which never even reaches as far as the ocean. Part of the appeal of Steinberg's drawing is that it captures a true perspective of the way people experience the world. People tend to exaggerate the importance (on a global scale) of the place where they live. They form an impression of how near or far it is to another place (which is related more to whether or they ever go there than to the actual distance between two points), and they have a definite opinion of which distant places would be fun to visit (try telling your friends that you are going to spend a vacation in Pittsburgh, for example). Steinberg's view from New York is a distortion of an actual geographic map, but is the genuine mental map from the point of view of people who live in New York City.

Mental maps and library collections

The pattern of map use in a library collection can be described as a mental map showing locations which are perceived to be interesting by library users. This mental map of "the view from the library" makes a good collection development model for several reasons: It clearly shows the geographic areas for which maps should be heavily collected (and which maps will need extra care for preservation and security); it defines the collection development policy in visual terms, which are more appro-

priate to the medium than verbal descriptions; and the boundaries of a mental map are flexible enough to be adjusted for special subjects.

Studies of mental maps show that there are a few identifiable properties which determine people's knowledge of and interest in particular geographic areas. Based on these properties, it should be possible to make a generally accurate prediction of the pattern of geographic interest at a given library. The studies described below define the properties of mental maps that form a basis for library collection development.

Some studies of mental maps

The book *Mental Maps*, by Peter Gould and Rodney White (1986), provides an introduction to the study of perceptual geography, and presents several studies which describe the properties of mental maps. One of the most interesting ideas which emerges in the book is that there exists a common mental image of a place which does not vary a great deal between individual people from the same region and culture. In two studies described in the book, students who were about to graduate from school were asked where they would like to live. Their responses were used to generate maps of the United States and of the United Kingdom showing perceived good and bad places in each country. The resulting maps from both studies revealed two general rules:

1. The area where the survey was taken was always rated as desirable.
2. There was a shared national perspective among the people who were surveyed.

In other words, the students liked it where they already were, and where they were familiar with the area. They also agreed with each other about which particular places were good and bad. In the U.S. study, for example, surveys were taken in California, Minnesota, Pennsylvania, Alabama, and North Dakota. For each survey region, the map of preferred areas followed the same pattern. Regions which were universally considered "good" (besides the local area which was always considered good), were southern California, Colorado, and Florida. Undesirable places were North and South Dakota, Utah, and all of the southern states (except Florida).

Other studies described in *Mental Maps* investi-

gate the relationship between the amount of information people have about a place, the population of the place, and the distance to it. The patterns of these maps illustrate another general rule: the interest in an area will trend in the direction of population centers. As Gould & White (1986, 93) put it:

Using our crude surrogate measures of information, we can now postulate an intriguing idea: that average person's information about geographical space is virtually determined by his location within an invisible, but very real "information environment." Given the knowledge of Mr. or Ms. Average Perceiver's location, and the distribution of people, we should be able to predict quite accurately the information they have in their heads about the space around them."

Certainly these rules oversimplify individual differences between people. However, they are adequate to develop a general idea of what a map of geographic interest would look like from a given location. The map would encompass nearby areas and interest would trend in the direction of population centers. A few distant places with good reputations would also be included. For library purposes it would be a mistake to try to draw the boundaries too precisely anyhow.

Mental Maps for Special Subjects

Another way of understanding a region is to construct a composite map from a set of specific subject maps of an area. Tourist brochures are a good source for this type of map since tourism researchers often use composite maps to define marketable tourism regions. Maps are constructed to show various dimensions such as climate, types of attractions, natural and cultural resources, and accessibility. Researchers try to put the factors together in a way that will create a coherent (and positive) image for advertising. Often a great deal of marketing research has gone into the placement of the boundaries, so the maps can be a good source for determining the scope of a "local" region.

For subjects other than political science, political boundaries are inadequate to define a perceptual space (one of the reasons map catalogers are so often annoyed by the Library of Congress subject headings). In *The Nine Nations of North America*, Joel Garreau (1981) uses Colorado as an example of how irrelevant political boundaries can be:

Colorado is clearly two different places: the eastern half, which is flat, fertile agricultural land, and the western half, which rises dramatically in the suburbs of Denver to become the Rocky Mountains. Back when there were few people to speak of in the territory and it didn't make much difference, "Colorado" was boxed off into a neat, perfect rectangle, and now the idea it represents has been around long enough to become self-perpetuating. People speak and think of Colorado as one identifiable place, despite abundant evidence to the contrary and for little better reason than their fathers did it that way. That does not, however, make the idea useful.

Garreau's book is an argument that various regions of the North American continent are naturally united by common experiences which have little to do with current political boundaries. He has divided up the United States along to economic and cultural lines, and given fanciful names to the resulting "nations". In Garreau's division, "The Empty Quarter" includes western Colorado and Utah along with other states to the north, Alaska, and much of Canada. In this region a boom-and-bust economy is based on exploitation of natural resources, and politics are characterized by arguments over water rights. Garreau's "MexAmerica" includes the southeast corner of Colorado, Arizona, New Mexico, California as far as Los Angeles, and Mexico. This region is dominated by a Spanish speaking culture, border conflicts, and irrigated agriculture. The "Breadbasket" includes the eastern third of Colorado and the great plains in a region featuring large scale farming of wheat and corn, and a calm social environment.

Another attempt to show the non-political social boundaries in the U.S. is *Cultural Regions of the United States* (Gastil, 1975). Gastil's divisions are based on cultural similarities within each region. He gives his regions colloquial geographic names, and the fact that the terms are in common usage tends to strengthen his argument that the regions are in some sense real. In Gastil's model Colorado has four influences: The "Rocky Mountain" region in the north; the "Central Midwest" Region to the east; the "Interior Southwest" in the south; and a "Mormon" region along the western edge. In both of these examples the authors have tried to explain the perceptual regions of the United States by trying to determine what the common elements are that make the regions seem like unified areas to people who live there.

The idea that the overall mental map of a region is composed of separable subject-specific maps is also useful for librarians who want to collect maps in different subject areas. For example, a geologist would have a different idea of which particular areas are interesting than a sociologist. Geologists are more likely to recognize physical features of the landscape, and sociologists will probably be more aware of man-made cultural boundaries. Many interesting maps showing cultural dimensions can be found in the atlas *This Remarkable Continent* (Rooney, John F. Jr et al, 1982), which is "an anthology of maps and drawings ... depicting important aspects of the cultural and social geography of the United States and Canada". These maps show the distribution of everything from gay bars to folk dance clubs, and from religious regions to dialect regions. For another cultural dimension, the 1980 census data has provided a good portrait of ethnicity in the United States. The census data is mapped in *We the People: an atlas of America's ethnic diversity* (Allen & Turner, 1988).

There are also systems for dividing the United States along natural boundaries such as the division into physiographic provinces shown in a U.S. Geological Survey map (Bayer, 1983) and described in detail in *Geomorphic systems of North America* (Geological Society of America, 1987). The physiographic-province concept was developed before the discovery of plate tectonics, and so it is actually an intuitive way of understanding the physical landscape. Comparing the physiographic province map to other maps helps clarify the relationship between the physical landscape and the economy and sociology of an area. For instance, in Colorado the three physiographic divisions of the state mirror the cultural boundaries delineated in other studies: the Great Plains in the east, the Rocky Mountains in the central part of the state, and the Colorado Plateau in the west. There is a good collection of maps of physical features in *The National Atlas of the United States of America* (1970), which is currently being up-dated on separate sheets.

The View from Fort Lewis College

The sources mentioned above are useful for understanding the qualities of a region, but according to the mental maps model the properties of proximity and population override the importance of other factors in determining people's geographic knowledge.

In order to test some of the ideas of how mental maps relate to a library map collection I studied the use of the map collection at the John F. Reed Library. The study provides a picture of what the world looks like to people at Fort Lewis College, and that picture looks pretty much like a Saul Steinberg drawing.

The College and the Collection

Fort Lewis College is a four-year liberal arts college with approximately 4,000 undergraduate students. The College is in the town of Durango (pop. 13,000), in an isolated corner of southwest Colorado. The map collection at the John F. Reed Library has about 12,000 maps including non-circulating U.S. Geological survey maps (7.5' topographic quadrangles for Colorado, Arizona, New Mexico and Utah; some 7.5' quadrangles for other states; 30x60-degree maps of most of the United States; and various geologic map series) and a collection of circulating maps from various other sources, including many CIA maps, and National Geographic maps. The collection is steadily used by people from the community as well as by students and faculty members. The average use is about 84 maps per month.

The method

Over the period of one year, the geographic area of maps which were either used or requested were recorded on a grid. Different scales of maps required using three sizes of grids: a 7.5' grid of the four corners area; a 1-degree grid of the U.S.; and a world map. Only separate maps (not atlases) were counted since it was too hard to pinpoint the specific geographic areas the atlases were used to find. There are two obvious difficulties with this method: First, that usage may simply reflect the current composition of the collection, and second, that the results may be skewed by people reshelving their own maps. The library does own maps (or atlases) of the whole world at some scale or another. People who are dissatisfied with the scale or style of what they find themselves will very often ask for help to find a better map. This study counted requests for maps which were not actually available at the library, and those requests are included in the data. The library keeps some map mail order catalogs and U.S. Geological Survey order blanks and price lists on hand so people can obtain maps of uncommonly requested areas. As for the reshelving problem, the number of maps left

out means that the pattern should even out over time even if a few maps were missed.

A total of 1,007 maps was recorded between August 1989 and July 1990. 92% of the maps used showed U.S. regions with a strong emphasis on the Four Corners region (Arizona, Colorado, New Mexico and Utah) as shown in Table 1. The remaining 8% of the maps showed foreign countries, the world, or astronomical subjects.

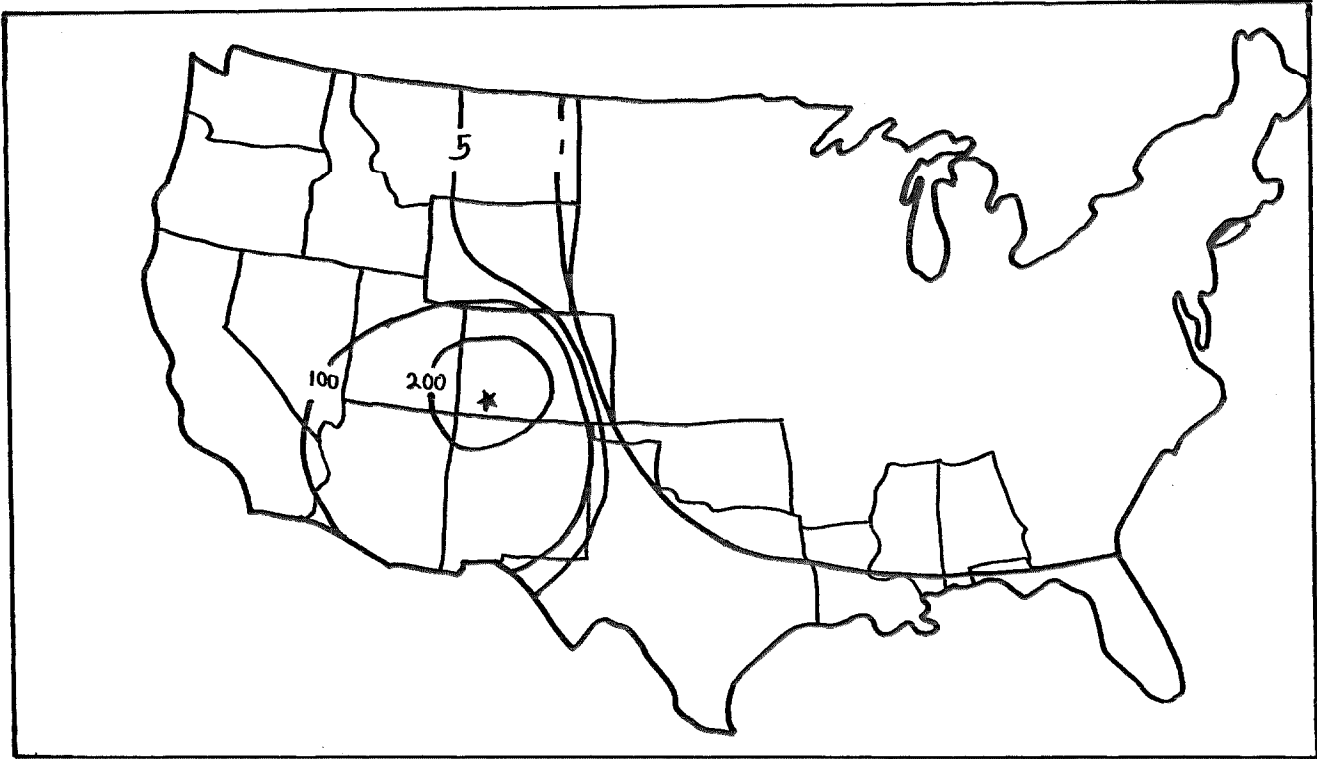
<u>Geographic Area</u>	<u>% of total</u>
Colorado	41 %
Four Corners Region	83 %
Western U.S.	87 %
Total U.S.	92 %

Table 1. *Geographic areas shown by maps used at the John F. Reed Library between 8/1/89 & 8/1/90.*

The Local Map

Map 1. shows the intensity of use of United States maps (including maps showing any portion of the country smaller than the whole area) at Fort Lewis College between August 1, 1989 and August 1, 1990. The contour lines show the approximate number of maps used during a year that could be expected to show a particular point on the map. Map 1. illustrates the value of proximity for predicting map use. The most frequently used maps show areas within a two-hour drive from Durango. In compiling this map it was striking that the boundaries between regions of interest are very precise. That is to say, people in Durango are mainly interested in well-defined pieces of the United States.

These area can be described by a nested set of progressively larger, and progressively more distant, regions: first the Western Slope of Colorado, second the Four Corners region (Arizona, Colorado, New Mexico, and Utah), and third the United States West of the Rocky Mountains (including Alaska and Hawaii). The map also shows that there is a slight amount of interest in the Gulf Coast and Florida, but as far as people in Durango are concerned, the Midwest and the East Coast are a great unknown.



Map 1. *Use of United States maps at the John F. Reed Library, 8/1/89-8/1/90, Contours show the number of times during the year that a map showing a particular area was used or requested.*

The Regional Map

Map 2. is a closeup of the Four Corners Region showing the use of maps at a scale of 1:62,500 or larger (these were 64% of total maps used, since the maps showing whole states or the entire region are not included). This map shows a more detailed picture of the local area, and illustrates some reasons why some areas are considered to be more interesting than others. The area of greatest interest is centered, as predicted, on the town of Durango. This area of intense interest trends towards the San Juan Mountains where there are many popular recreational trails. The secondary area of interest shows two major directional trends: One heading along the Rocky Mountains towards the Denver metropolitan area (with a definite interest in resort areas along the way), and the other heading west towards the national parks and recreation areas in Utah. Interest in Colorado ends abruptly at the edge of the great plains in the eastern part of the state. One interesting feature of this map is that the major population magnet is Denver rather than Albuquerque (which is closer). The Colorado orientation of the map users reflects the origin of the students at Fort Lewis College -

about 75% of the total are from Colorado and about 20% of the total are from the Denver area.

The World Map

Because the John F. Reed Library does not have many large-scale maps of foreign countries, and because relatively few maps of foreign countries were used it was hard to map the pattern of use of international maps. The pattern of map use did not form a gradient of interest which varies with distance as the U.S. maps do. There were islands of interest in particular parts of the world, as shown in Table 2. Recently, the war in the Persian Gulf has created a great demand for maps of that region. It will be interesting to see if a more distinct pattern of international map use develops over time.

Judging from the fuss about the condition of geographic education, no one in the United States knows anything at all about foreign geography. However, a study by Thomas F. Saarinen (1973) identified six factors which influenced knowledge

of foreign geography: proximity, distinctive shape, area, current events, and cultural factors. The importance of current events makes user interest in international maps somewhat unpredictable, but these factors do give some guidelines as to which maps should be consistently popular.

- | |
|---|
| <ol style="list-style-type: none"> 1. Mexico 2. Western Europe 3. Central America; Israel; USSR 4. China; Japan 5. Great Britain; Vietnam 6. Canada |
|---|

Table 2. A ranked list of the top ten non-U.S. areas shown by maps used or requested at Fort Lewis College, 8/1/89-8/1/90.

Conclusion

The study of the geographic pattern of map use at the John F. Reed Library confirmed the general "mental maps" prediction of which maps would be most in demand. The most important factor was proximity. Maps of near-by areas were used the most. The second level of interest was based on two important factors: population (identified by Gould & White) and recreation possibilities (which they did not identify). The third level of interest was a general regional interest focused in particular on the Four Corners states and in general on the U.S. west of the Rocky Mountains. These regions match the boundaries delineated in various studies of cultural regions, and can be described by geographic terms which are in common use. Some implications of this study are as follows:

1. In a library, the pattern of map use for U.S. maps can be predicted quite accurately by taking into account the proximity, population, and recreation possibilities of the area shown by the map. This prediction gives librarians a useful tool for collection development, for setting cataloging priorities, and for deciding which maps need special care or protection.

2. The use of maps follows regional patterns which will depend on the location of the library. The regions defined in this study already had colloquial names (i.e. "western slope" or "four corners") which suggests that simply listening to what people call the area where they are may be a good way to define collection boundaries. The qualities of these areas have been described in different ways by many

different authors, and these descriptions are useful for collection development in different subject areas.

3. A small collection of maps can satisfy a large percentage of library patrons. An ideal small collection would include: large-scale maps (showing various subjects) of an area to a distance of about 100 miles from the location of the library; large-scale maps of near-by population centers and recreation areas; some regional maps on a smaller scale; and a few maps of places which are in the news.

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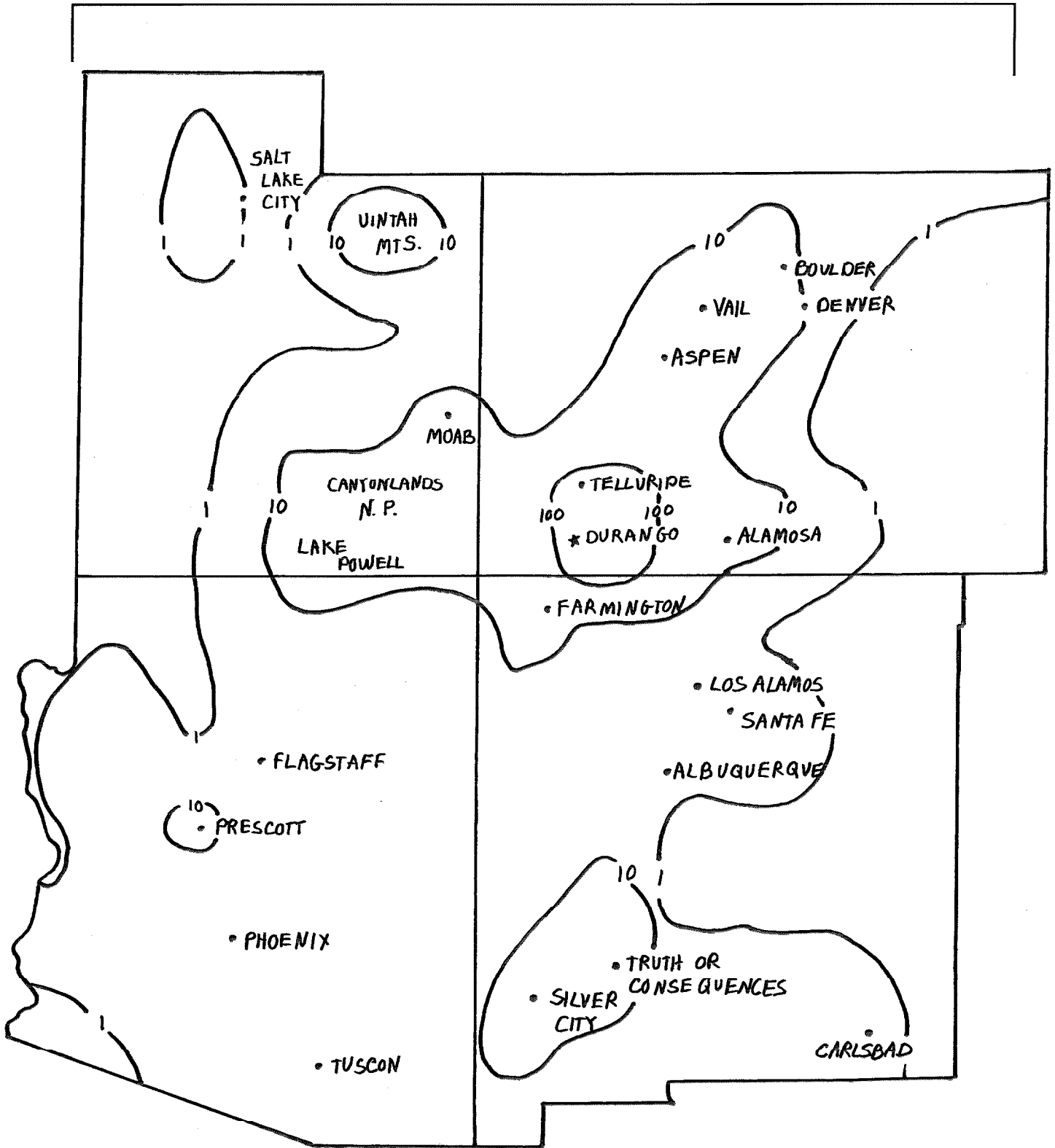
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Map 2. Use of large scale maps within the local region surrounding the John F. Reed Library, 8/1/89-8/1/90. Contours show the number of times during the year that a map showing a particular area was used or requested.

The Three-Pronged Fork in the Road: A Detective Mystery of the Twenty-First Century

by

William E. Studwell

Gather around, brave readers, to listen to my tale. It is a mystery story from the twenty-first century, taking place perhaps a quarter-century from now. And yet it is so real and clearly seen that it seems as if it were from the past, not the future.

Winding through the grey mists of the years is a long road that twists and turns here and there and then back again.. The pathway is fairly broad, alternately glassy-smooth and rocky-rough. Elsie Subheads, our heroine (or villain, depending on one's perspective) is ambling along, seemingly without clear direction or purpose. She has been grumbling for quite a while about the customers that keep her in business. "The nerve of them," she complains to herself. "They actually want me to do things their way!"

She continues to poke along, furtively scanning the semi-dark immediately surrounding her, hoping that one of those customers, one of those dreaded consumers, does not confront her. "They bring too much light when they come," she grunts half-heard. "I just can't stand that!"

For the past several decades, those persistent customers had seemed to be behind every tree and around every bend of the road. Although most of those who appeared along the way were friendly and offered sincere and sound advice, Elsie Subheads had always been very stubborn and independent. With an impressive official emblem emblazoned on the front of her coat, featuring her initials L.C.S.H. in bold letters, she was a proud creature.

But after the seemingly endless recent encounters with the pests who call themselves librarians, Elsie Subheads is quite frazzled and tired. She is so very relieved to have wandered along for a while without any irreverent interruptions. Yet touches of anxiety occasionally dart out from the fuzzy

surroundings to give Elsie a bit of a sting. "Where are they?" she repeatedly mutters. On one occasion the frustrating question even ends as a terse, muted shout.

Perhaps it was the increasingly foreboding weather that gave Elsie the initial clue. Perhaps it was the continued unexplained absence of her adversaries. At first this unaccustomed phenomena of solitude had been a comfort which had elicited, at least once, the trace of a smirk. As time went by, she more and more approached the uneasy realization that something was wrong.

Suddenly, after traversing a particularly steep and unfriendly rise in the road, Elsie came to a flat, open, prairie-like area. Somewhat breathless from the last few moments in her journey, she paused to survey the scene before her. Stopping to look at the whole picture was something Elsie was not accustomed to doing, and therefore having a very broad, almost 360-degree panorama unfolding around her startled her. A one-person earthquake, in fact, might have been a better description of her temporary condition.

"What the —?" she exclaimed. "How did they get ahead of me?"

With the glow which Elsie so much disliked fully illuminating them, the huge body of librarians that Elsie had thought fallen by the wayside were gathered a fair distance in front of her. Even though Elsie could clearly be seen at the edge of the open area, and more so after she recovered from her initial shock and began to assume her stiff official posture, the group generally ignored her. A few glances of indifference and possibly hostility were tossed in her direction, but that was all.

The cursed librarians were too busy with another matter. They were gathered at three gates mark-

ing the threshold of a three-pronged fork in the road, animatedly discussing which path to take. After observing the "unappreciative mob," as Elsie mentally dubbed the massive ensemble, for a few minutes Elsie succumbed to her overwhelming fatigue and fell asleep.

It was much darker when Elsie unpleasantly awoke from her slumber. There was not doubt in her mind, upon arising, that she had napped for longer than she should have, for the whole environment seemed different, almost unfamiliar. Yes, the prairie was still there, was was the three-pronged fork in the road. Yet all seemed eerie, out of place, and, most of all, far too quiet. Swallowing a deep dose of foreboding, Elsie cautiously made her way up to the curious intersection. From afar, Elsie - whose vision was quite dim and limited - had not noticed the three gate signs marking each of the alternative roads.

Quickening her normally slow pace upon spying the signs, Elsie at last came close enough to read their messages. On the right the sign said, "LC Subject Access, Status Quo. Dead End. Soon to be closed, But Easy to Enter." In the middle the sign said, "LC Subject Access, Revised, Upgraded, and Codified. Much Improved Pathway. Must be Entered by Early in the Twenty-First Century, But Only by Permission of Elsie Subheads." On the left the sign said, "Subject Access by Other Means. Uncertain Roadway. Can Be Entered at Any Time Without Resctrictions."

The strange dawn which awakens overly dormant perceptions finally arrived in Elsie's consciousness. At last she understood, she truly and fully

understood. But with th enlightenment soon came a pervasive fear. What had happened to the group of librarians? Had they gone on without her? If they had, which path had they taken? They couldn't have taken the middle course, for Elsie herself had the key to the gate. They could have taken the status-quo course, but that way was trouble. They could have taken the "other means" course, but that would mean a permanent parting between Elsie and the pesky librarians for whom Elsie had suddenly developed a fondness.

Noting the entire bizarre setting without the slightest hint of place or time, Elsie Subheads reflected, "Maye this is a dream, a nightmare. Maybe this didn't happen." After a pause of indefinite duration, her voiceless ramblings continued, "Maybe this is a warning of things to come. Like Scrooge got. Maybe this really isn't the twenty-first century but instead the end of the twentieth century when all of this stuff began to come to the forefront. Maybe ...!" Her thoughts seemd to vanish into the haze.

What do you think, brave readers? Put on your detective garb and unravel this curious mystery of the next century. Was it all some kind of dream, or was it future reality? If it was a dream, did Elsie Subheads get the message and change her ways as in Dickens' famous tale? If it was reality, did the librarians go on before Elsie, and if so, which choice did they make? I am just a mere storyteller, a humble relator of real and unreal happenings. i cannot guide you towards what may be truth. Only you, the detective-librarians, can determine what is right, and only you can act accordingly.

§

GIS in Germany

Presentation by
Ellen Oberman and U. Kottmeier

The Base Module: ALK-GIAP

This German real-property database is a cross-functional information system for spatial data. Requirements for the database were put together jointly by several German states; as a side note, regional planning, land registry, and topographic mapping are the responsibility of each state.

ALK (Automatiesierte Liegenschaftskarte) refers to the collection, administration, and processing of spatial data for large-scale mapping. ATKIS

(Amtliches Topographisch-Kartographisches Informationssystem) refers to the requirements for small-scale mapping. Both formats can be manipulated interactively by GIAP (Graphisch-Interaktiver Arbeitsplatz) - a single-user, dialog-oriented workstation - and in batch mode. In either case, no actual maps are stored; rather, a map is derived from the database contents. The system includes a method of outputting hard copy. There are many shells for special applications - e.g., simultaneous processing of vector and raster maps. The software has been implemented and ported on ten different operating systems. For more information, contact: U. Kottmeier, AED Graphics, D-5300 Bonn, GERMANY.

NEWS: STATES AND PROVINCES

Arizona

From an invitation: The University of Arizona invites you to attend a series of events initiating the observance of the Columbus Quincentenary. Symposium, "Northern New Spain: Hispanic and Native American Perspectives," Sept. 7, 1991, 9-5; on display at the Main Library during 9/91, "Maps and the Columbian Encounter" and "Maps of the Pimeria." The Map Collection has put together the latter exhibit, of original maps from its collection covering the region once known as Pimeria.

Pimeria was a province of Spanish colonial Mexico including southern Arizona and northern Sonora; the name was used from the late seventeenth through the eighteenth century, and still appeared on some maps published up to the middle of the nineteenth century. The 34 maps are from 1556 to 1854; they were on display from September 1 through 30.

California

The map cataloging project started at UCLA in May of 1991.

Colorado

For a free copy of *Colorado geographic information resources directory*, write to Mr. Marvin Koleis, Chairperson, Colorado Geographic Information Coordinating committee, c/o Colorado Dept. of Local Affairs, 1313 Sherman Street, Room 521, Denver CO 80203. It's an excellent publication, worthy to serve as a model for other states.

Nevada

From Linda Newman: "I am pleased (and relieved) to announce that the Nevada Bureau of Mines and Geology has recently published

its Special Publication 12, NEVADA BUREAU OF MINES AND GEOLOGY PUBLICATIONS THROUGH 1989 - AN ANNOTATED BIBLIOGRAPHY AND INDEX edited by Susan Tingley of the Bureau, and myself."

The 192-page publication describes and indexes each of the 473 publications issued by the NBMG through 1989; the Map and Urban Map series, of over 100 maps, and ALL MAPS IN THE POCKETS OF THE PUBLICATIONS [Editor's capitalization] are included. The detailed index of several thousand entries facilitates searching for names of mines, deposits, mineral commodities, and many other geologic and mineral-resource topics. This is the first bibliography of the Bureau's complete publications. Special Publication #12 is available from the NBMG Sales Office for \$10 (plus \$1 for shipping): NBMG/MS 178, University of Nevada, Reno NEV 89557-0088; 702/784-6691; fax 702/784-1709.

New Mexico

Old Maps of the West has moved - new address is: Andre Dumont Maps and Books, POB 10117, Santa Fe NM 87504, 050/986-9603.

Oregon

On June 13, 1991, the Map Library at the University of Oregon was officially renamed, "Map and Aerial Photography Library," thus acknowledging a growing, important part of the collection, and coincidentally thus coming up with the initials M.A.P. Currently MAP has about 410,000 air photos, compared with 230,000 maps (From June 1991 *Selected New Atlases and Maps*).

Washington

Check out the Northwest Map Service, W. 713 Spokane Falls Blvd., Spokane WA 99201 ; 509/455-6981.

Thomas Wilson Dibblee, Jr.

a biographical introduction

By age thirteen, Thomas Wilson Dibblee, Jr. had found his life's work and his life's love, mapping California's geology. Today, more than 60 years later, Dibblee, now nearly eighty, is still at it.

Dibblee's work is legendary. He would drop out of sight for a week or longer with only the slimmest of provisions. He would roam the harsh and remote back country with the greatest of ease on his own two feet. And on those two feet he often wore only beat-up old sneakers with a pair of thin socks.

Instead of taking time to return home every night, Dibblee would sleep in a sleeping bag by the side of the road or he would put a board across the front seat of his car and extend his feet out the door.

Dibblee has his own style. He doesn't use a hammer to chip at rocks - he knows what all the rocks look like, and seems instinctively to know what any particular rock is, using a hand lens only as an occasional double check. Dibblee never uses a compass; he uses his innate understanding of the topography to read the land and measure rock attitudes with uncanny accuracy.

Dibblee does not take notes. All of his information goes straight onto the field sheet. His precisely drawn geological contacts and notations become his finished geologic maps.

Many feel that Dibblee's mapping work is truly remarkable. Dibblee discounts this in his quiet manner, saying that his work has just been a sustained, routine effort, driven by a scientific curiosity to see as much of California's geology as possible. Whichever it is, in his 60 active years, Dibblee has left a legacy for generations to come. So far, he has mapped one-fourth of California, an area of more than 40,000 square miles.

In 1948 Thomas Wilson Dibblee, Jr. made one of his most famous discoveries - an oil-bearing formation in the Cuyama Valley of Santa Barbara County. Even though it was generally accepted that there was no oil there, Dibblee's geologic mapping uncovered a favorable structure and abundant oil was discovered. The structure was later named, in honor of his work, Dibblee Sands.

THE THOMAS WILSON DIBBLEE, JR., GEOLOGICAL FOUNDATION

The Thomas Wilson Dibblee, Jr., Geological Foundation was established in 1983 as a California tax-exempt non-profit organization by his colleagues and other professionals who admired the man and the quality of his work. The purpose of the Foundation is to preserve the social, economic and educational value of Dibblee's life work by publishing the extraordinary amount of Dibblee's mapping which is not yet in print. The foundation hopes to publish as many maps as possible during Dibblee's lifetime, under his guidance and direction.

The main goal of the Foundation is to publish at least one hundred of the several hundreds of Dibblee's geologic maps not yet in print. We are publishing these maps with an attractive and consistent color scheme, at a consistent scale (1:24,000) on U.S. Geological Survey base maps, readily available without restriction, at reasonable cost, and containing only factual, observable geologic information.

Printing and publishing one hundred maps is quite an undertaking. While Tom still can go out and map the back country, we cannot publish these maps without your help. Because we receive no federal or state funding, these maps are published

entirely from personal and corporate contributions and from the proceeds of map sales. These maps cost an average of \$10,000 to bring from Tom's tattered field sheets to full-color publication. We ask you to help us with a donation of any amount. Please join us and help the legend of Thomas Wilson Dibblee, Jr., live on for generations of geologists and Californians. Your tax-deductible contributions can be sent to: Dibblee Geological Foundation, POB 60560, Santa Barbara CA 93160.

A DAY IN THE FIELD WITH TOM DIBBLEE

by

Helmut E. Ehrenspeck
Editor
Dibblee Geological Foundation

Many geologists are unaware of the geologic mapping approach that Tom Dibblee has developed in over 60 years of field work, and which he applies with great consistency and perseverance. Few have accompanied Tom in the field to see his geologic maps progress, day by day and piece by piece, into a mosaic of hundreds of finished geologic quadrangles. It is only in the last few years that Tom has slowed his prodigious pace of field work to one or two field days per week, and that he and his wife Loretta prefer to have someone along to assist with the field work and the logistics.

As editor of Dibblee's maps, responsible for all phases of map production and publication, it was natural that I should accompany Tom on his weekly treks and look over his shoulder as he maps. Over the last five years I have had many opportunities to observe geology along with Tom, to have him explain what he sees, maps and records, and to witness his thorough and efficient methods of observing and recording geologic information. But before I explain what and how he maps, we must understand why he continues to map so actively. After all, he retired from USGS in 1978!

As Dibblee himself states, he is driven by an intense and sustained curiosity to see, in his lifetime, as much geology in the field as possible, in order better to understand the genesis and interrelationships of the many uplifted areas he has mapped. The Santa Monica Mountains - a prime example -

have, of course, been mapped by many others. But existing mapping is an incomplete and disjointed patchwork of geological maps of different scales and levels of detail, differently defined and named lithologic or time units, and diverse structural interpretations, reflecting a variety of professional backgrounds, biases, and levels of familiarity with the region. Confronted with such confusion, Dibblee feels he has little choice but to "go out there and see for myself what the rocks and structures are," and to record them as accurately and consistently as possible.

Now, as to how he maps geology. Like other geologists, Dibblee usually begins by critically comparing and compiling available mapping and other geologic data onto a 1:24,000-scale topographic base map, giving due credit to any sources of information. He then goes out to field-check, add to, or as necessary map or completely remap the area from his own field observations. Such mapping usually involves long "loop" hikes along fire-breaks, jeep roads, trails and even coyote paths, so that he can examine rock units and structures from different perspectives, up close and from afar. He stops frequently to pencil in new observations on his field sheet, such as bedding attitudes and contacts, or to adjust and fine-tune his previous observations.

Working together, we make frequent side forays to closely examine the rocks and verify their identity and characteristics. This procedure reveals many details that cannot be seen from aerial photos or from cursory roadside mapping. In addition, Dibblee's truly remarkable memory for every outcrop he has ever seen ensures the consistency of his mapping throughout large regions and over long periods of time.

In mapping sedimentary rocks, Dibblee puts primary emphasis on differentiating the rock types, such as shale, sandstone, conglomerate, carbonates, etc., and by then tracing individual lithologically distinct units as far as possible. This method may reveal abrupt or extreme facies changes so common in California geology, often mistaken for faults by others.

Dibblee deplores cluttering the stratigraphic nomenclature with a multitude of local formational and member names. Instead, he finds it more useful to map lithologic facies units and to designate such by a rock term within a regionally recog-

nized formation. Dibblee's careful mapping of individual rock units clearly reveals fold structures that might otherwise be missed. Combining lithologic with structural information, Dibblee then delineates the faults that are physically mappable or can reasonably be proven to exist; that is, where rock units, fold axes, and/or physiographic features are definitely displaced, juxtaposed, or truncated. Faults that must be inferred from questionable or only suggestive evidence are not mapped.

As Dibblee has stated in recent correspondence:

To me, this is the most logical field procedure, to record only basic geologic data, in an unbiased way, and with a minimum of interpretive inferences. My mapping is not based on, or influenced by, theories or models. I prefer to let other geologists express their interpretations or ideas in whatever ways they wish rather than to include these on my maps.

In summary, Tom Dibblee's geologic mapping is extremely valuable because it consistently represents the clearest available record of exposed rock types, stratigraphy, and structure, and shows only observable, factual geologic information, excluding unnecessary cluttering detail, or suggestive and largely interpretive inferences.

THE DIBBLEE GEOLOGICAL FOUNDATION'S UNIQUE COLOR PRINTING PROCESS

The Dibblee Geological Foundation has innovated a full-color printing technique which is distinctly different from conventional cartographic printing methods. As we are a small non-profit organization with very limited manpower and financial resources but with a very ambitious publication program, we found it necessary to develop this process as an alternative to the enormous costs, technical complexities, and long delivery times associated with the customary map-making procedures. Our process consists of the following four major steps:

1. Drafting: After careful editing, the geologic data and linework from Tom Dibblee's original field sheet are drafted onto a greenline film positive of the topographic base map. For consistency

and speed, all geologic symbols, numbers and lettering are generated in quantity on a Macintosh computer and printed onto adhesive-backed clear film for quick and easy cut-and-transfer. Legends and text are also prepared and typeset directly on a Macintosh/Laserprinter combination.

2. Cel painting: The drafted original is photographically reproduced onto a clear film (cel) in which the geologic linework and information is retained but the green topographic base has been filtered out. Commercially available vinyl cel paints (as used in cel animation and color comics) are then painted onto the reverse side of the cel, one color per geologic unit. Viewed from the front the paint forms a smooth, even and accurate full-color rendition of what each geologic unit on the published map will look like. The process takes about 15 hours per map and requires no high-tech equipment, no specialized technicians; just a light-table and a steady hand. Our method also permits easy changes if necessary, in color or linework, right up to the time of scanning.

3. Laser scanning/color separation: The painted cel is electronically scanned by a commercial laser scanner, which analyzes the different cel paints for their proportions of the standard primary colors (yellow, red, blue, and black), and automatically generates the negatives needed to produce press plates. Color proofs are provided to check the accuracy of the color scans.

4. Printing: Color press plates are produced, and the black geologic information and screened topography are photographically combined to create the fourth (black) press plate. We then apply standard four-color printing methods, using a local California printer (Blake Printery in San Luis Obispo) with a 26-inch, 4-color Heidelberg press. We print an edition of about 1000 copies, of which 850 are in full color. An unexpected bonus of our process is that for our black and white edition, the pressman just turns off all color inks except black and leaves the press running a few minutes longer!

In summary, the advantages of our color printing process include technical simplicity, short preparation time and relatively low cost, enabling a small organization with very limited human and financial resources to produce full-color publications rivaling the quality and timeliness of those of governmental mapmaking organizations.

**ORDERING INFORMATION FOR
DIBBLEE GEOLOGICAL FOUNDATION
MAPS OF SOUTHERN CALIFORNIA**

All published maps are available in full-color and black-&-white editions. Full-color maps are available folded or rolled; b/w maps are available folded only. To purchase individual published maps (full-color, folded ONLY), write California Division of Mines and Geology, 660 Bercut Drive, Sacramento CA 95814-0131. Maps are \$10.00, POSTPAID.

To receive maps as they are published (standing order), and for individual maps or special orders (unfolded or b/w), write: Los Padres Interpretive Association, ATTN: Mr. E.R. Blakley, 958 Isleta Ave., Santa Barbara CA 93109. Folded maps are \$10.00 each, POSTPAID. Rolled copies are \$12.00 each, POSTPAID.

The Dibblee Geological foundation is a non-profit, educational organization dedicated to the geological sciences. Funding for map publication is dependent entirely on individual and corporate contributions, and from proceeds of map sales. Your support is encouraged and appreciated.

For updated map listings or other inquiries, contact Helmut Ehrenspeck, Editor, Dibblee Geological Foundation, POB 60560, Santa Barbara CA 93160.

**SANTA MONICA MOUNTAINS
GEOLOGIC MAPS SERIES**

Recently published maps: The first 6 of 13 full-color geologic quadrangles of the Santa Monica Mountains are now available. They are the Los Angeles and Pasadena maps (1989) on the east edge of the range, and the Camarillo-Newbury Park, and Point Mugu-Triunfo Pass, maps (published as 2 double-sized maps in 1990) on the west end. The latter two maps each combine 2 quadrangles to retain important east-west trending volcanic and structural features of the area.

Maps going to press: On April 17 we went to press with the Hollywood-Burbank (south 1/2) and Beverly Hills-Van Nuys (south 1/2) maps. These

maps are oversized to preserve the continuity of the eastern Santa Monica Mountains, rather than to split up the range along arbitrary quadrangle boundaries. The Hollywood-Burbank map is dedicated to the memory of the late Lucy Birdsall, a well-known and distinguished California geologist and Foundation director.

At the same time we are also submitting the Sunland-Burbank (north 1/2) and San Fernando Valley-Van Nuys (north 1/2) oversized maps for printing. These maps cover areas north of the Santa Monica Mountains and include the western San Gabriel Mountains, much of the San Fernando Valley, and most of the Verdugo Mountains. We are dedicating a map each to two eminent California geologists: The Sunland-Burbank map honors Mason L. Hill who initially mapped this part of the San Gabriels in the 1930's as his dissertation; and the San Fernando-Van Nuys map honors Gordon A. Oakeshott for his pioneering field work of the 1950's in the western San Gabriels.

Maps about to be published have been funded, at least in part, as Phase 1 of our ongoing contract with the City of Los Angeles Planning Department; their publication will fulfill part of our contractual obligations to the City. Phase 2 of this contract will include Oat Mountain, Calabasas, Canoga Park, and Topanga Canyon.

Maps in progress: Final drafting and preparation of the topanga Canyon-Canoga Park (south 1/2), and Oat Mountain-Canoga Park (north 1/2) over-size maps and of the Calabasas quadrangle begins as soon as Tom Dibblee completes about 4 more days of field work, mostly in Topanga Canyon. These maps should be ready to print late this summer and are marked "late 1991." The Thousand Oaks, Point Dume, and Malibu Beach quadrangles will be published individually after that. Some of these include structurally and stratigraphically very complex areas that need an estimated total of 14 additional days of Tom Dibblee's field mapping and geologic unravelling. They may be published in 1991.

4/13/91

THOMAS W. DIBBLEE, JR.

A Selective Cartobibliography:
Separately Issued Maps of California, 1952-1991

Derived from current publishing information
and
Bibliography of Thomas W. Dibblee, Jr., 1937-1985

by **Mary L. Larsgaard and Susan Dixon**

March 1991

Presented at the reception for T.W. Dibblee, Jr., sponsored by the Western Association of Map Libraries and the Santa Barbara Museum of Natural History, at the Museum on March 22, 1991.

CARTOBIBLIOGRAPHY**Abbreviations:**

- I: Miscellaneous geologic investigations map
MF: Geological Survey Mineral investigations
field studies map
OFR: Open-file report
USGS: United States Geological Survey

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 Carpinteria 1986 (DF-04)
 Casmalia-Orcutt 1989 (DF-24)
 Dos Pueblos Canyon 1987 (DF-09)
 Fillmore 1990 (DF-27)
 Goleta 1987 (DF-07)
 Hildreth Peak 1986 (DF-03)
 Lake Cachuma 1987 (DF-10)
 Lion Canyon 1987 (DF-14)
 Little Pine Mountain 1986 (DF-05)
 Lompoc-Surf 1988 (DF-20)
 Lompoc Hills-Point Conception 1988 (DF-18)
 Los Angeles 1989 (DF-22)
 Matilija 1987 (DF-12)
 Ojai 1987 (DF-13)
 Old Man Mountain 1985 [DF-2]
 Pasadena 1989 (DF-23)
 Point Mugu-Triunfo Pass 1990 (DF-29)
 Point Sal-Guadalupe 1989 (DF-25)
 San Marcos Pass 1987 (DF-08)
 Santa Barbara 1986 (DF-06)
 Santa Ynez-Tajiguas 1988 (DF-15)
 Santa Paula Park 1990 (DF-26)
 Santa Rosa Hills-Sacate 1988 (DF-17)
 Solvang-Gaviota 1988 (DF-16)
 Tranquillon Mountain-Point Arguello 1988 (DF-19)
 Ventura-Pitas Point 1988 (DF-21)
 Wheeler Springs 1986 (col.); 1985 (b/w) [DF-1]
 White Ledge Peak 1987 (DF-11)

IN PREPARATION:

Beverly Hills-Van Nuys (s. 1/2) DF-32)
 Camarillo-Newbury Park (DF-28)
 Hollywood-Burbank (s. 1/2) (DF-30)
 Piru (DF-34)
 Point Mugu-Triunfo Pass (DF-29)
 San Fernando-Van Nuys (n. 1/2) DF-33)
 Sunland-Burbank (n. 1/2) (DF-31)

§§

Benchmarks! Personal News of WAML Members, compiled by **Stan Stevens**

Edward Jestes

Earth Sciences Librarian, University of California, Davis
 and one of the 16 Founding Members of WAML
 Retired March 1991

Jenny Marie Johnson

University of Washington, Seattle
 Married August 1991

New Mapping of Western North America

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ALASKA

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NEVADA

Geological Survey (U.S.). *Maps of the thickness of Cenozoic deposits and the isostatic residual gravity over basement for Nevada*. 1990. 1:1,000,000. 2 maps, b&w ozalid. 25x35 in. 15 page text. Open-File Report 90-401. paper, \$8.75. fiche, \$5.50. Open-File Reports Section, Branch of Distribution, Denver Federal Center, Box 25286, Denver, CO 80225-0046.

_____. *Montana: Custer Battlefield*. 1985. 1:24,000 + 1:5,280. 2 maps on 1 sheet. col. 51x42 cm. G4252 C8 1891 U5. The location of "Custer's last stand" is shown in a regional view on a standard 1891 edition 7.5' topographic sheet, accompanied by a detailed close-up of the battlefield. Denver. The Survey.

Nevada Bureau of Mines and Geology. *Geologic map of the Mineral Hill Quadrangle, Nevada*. 1990. 1:48,000. col. Map 97. Text. \$13.00. University of Nevada, Reno, NV 89557-0088.

NEW MEXICO

New Mexico. Bureau of Mines and Mineral Resources. *Geology and coal resources of the Vanderwagen quadrangle, New Mexico*. 1990. 1:24,000. col. Geologic Map 64. \$4.00. Publications Rm. 107, Socorro, NM 87801.

_____. *Geology of St. Peters Dome area, Jemez Mountains, New Mexico*. 1990. 1:24,000. 2 sheets. col. text. Geologic Map 69. \$5.00. Publications Rm. 107, Socorro, NM 87801.

United States. Bureau of Land Management. *State of New Mexico land status map*. 1990. 1:531,915. Lambert conformal proj. col. 118x108 cm. G4521 G46 1990 U51. Sudoc I 53.11:N 42 m/2/990/large. Santa Fe, The Bureau. Washington, USGPO.

OKLAHOMA

Oklahoma Geological Survey. *Coal geology of Tulsa, Wagoner, Creek and Washington Counties, Oklahoma*. 1990. 1:63,360. 3 sheets. col. 42x49 in. text. Map GM-33. \$14.30. Rm. N-131, 100 E. Boyd St., Norman, OK 73019-0628.

PACIFIC COAST

National Ocean Service. *Multibeam survey maps*. 1991. 1:100,000. UTM proj. 51 maps. col. each covers area of 1/2 degree latitude by 1 degree longitude. 20 meter contour interval. The data generating these maps are extremely dense in comparison to traditional bathymetric surveys and provide much greater detail. Present mapping covers offshore areas of California, Oregon, Alaska (Gulf) and Hawaii. \$10.00 ea. Indexes and maps available from: Distribution Branch, N/CG33, National Ocean Survey, NOAA, 6501 Lafayette Ave., Riverdale, MD 20737. 301/436-6990.

PACIFIC NORTHWEST

American Map Corporation. *Northwest U.S. county/town*. 1991. Cleartype maps in new format, "pinstripe." \$5.95. 46-35 54th Rd., Maspeth, NY 11378. 718/784/0055. fax 718/784-1216. (ML)

SOUTHWEST

American Map Corporation. *Southwest U.S. county/town*. 1991. Cleartype maps in new format, "pinstripe." \$5.95. 46-35 54th Rd., Maspeth, NY 11378. 718/784/0055. fax 718/784-1216. (ML)

UTAH

Trails Illustrated. *Flaming Gorge National Recreation Area*. 1991. 1:90,000. Plastic, water and tear-proof, folds to 4x9 in. Box 3610, Evergreen, OH 80439. 800/962/1643.

United States. Bureau of Indian Affairs. *Land status and Uintah and Ouray Indian Reservation boundary*. 1990. 1:500,000. polyconic proj. col., 44x42 cm. G4342 U9G4 1990 U5. Sudoc I 20.47:U15. Washington, USGPO.

United States. Bureau of Land Management. *Areas of responsibility and land status map: Richfield District, Utah*. 1990. 1:500,000. polyconic proj. col. 62x78 cm. G4343 R5G46 1990 U4. Sudoc I 53.11:R 39/2. Washington, USGPO.

Utah Geological and Mineral Survey. *Geologic map of Antelope Islands, Davis County, Utah*. 1990. 1:24,000. 2 sheets, ea. 20x43 in. col. text. Map 127. \$11.00. 606 Black Hawk Wy., Salt Lake City, UT 84108-1280.

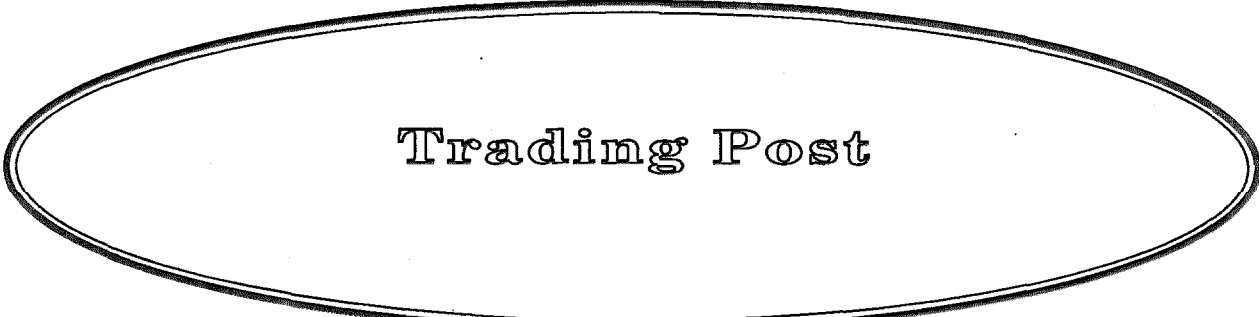
_____. *Geologic quadrangle maps: Crater Island, Crater Island SW, Lucin 4 SW, Juab*. 1990. 1:24,000. ea. map 2 sheets. col. 21x30 in. text. Maps 128,129,130,132. \$5.00 ea. 606 Black Hawk Wy., Salt Lake City, UT 84108-1280.

WYOMING

Geological Survey of Wyoming. *Coal map of the Powder River Basin and adjacent areas, Wyoming*. 1990. 1:500,000. col. 29x39 in. text. Map Series 33. \$4.00. Box 3008, Univ. Station, Laramie, WY 82071-3008.

_____. *Coal map of Wyoming*. 1991. 1:500,000. col. 56x40 in. text. Map Series 34. \$11.50. Box 3008, Univ. Station, Laramie, WY 82071-3008.

_____. *Metallic and radioactive minerals and lapidary materials map of the Powder River Basin and adjacent uplifts, Wyoming*. 1990. 1:500,000. col. 29x39 in. text. Map Series 32. \$4.00. Box 3008, Univ. Station, Laramie, WY 82071-3008.



Trading Post

The Kansas City (MO) Public Library is in the process of deaccessioning its map collection. Therefore, it is offering, for the cost of postage, its collection of U.S. Geological Survey topographic maps. 7.5-minute series, covering all states, most dating from the 1940's to 1986, when the library discontinued receiving maps. (The collection occupies approximately 400 map cabinet drawers). If you would be interested in obtaining all or part of this collection for your library, or would like additional information, please contact

Bob Lunn
Kansas City (Mo.) Public Library
311 East 12th Street
Kansas City MO 64106

816 / 221-2685 ext. 44.

ATLAS & BOOK REVIEWS

edited by

Greg Armento

University Library
California State University, Long Beach
Long Beach, CA 90840-1901 213-985-4367

Kreissman, Bernard. *California, An environmental Atlas & Guide*. Davis, CA: Bear Klaw Press, 1991. 255 p. \$19.95. LC: 90-083315 ISBN 0-962789-9-4

The object of this projected 2-volume reference work is to describe environmental sites in California. Volume 1 is devoted to rivers, faultlines, habitats, and the like; while volume 2 will deal with man-made elements (e.g., power transmission lines). The atlas' format generally consists of black-and-white maps on one side faced by descriptive text and tables on the other. A directory of agencies, a bibliography and an index appear at the end of the volume. Given the focus of our times - the Earth's environment - this is an extremely handy atlas, especially for map libraries in California. The text is to the point; the maps are small-scale (ca. 1:4,500,000), but they are consistent, thus comparison from one map to another is easily done. Certainly we would all be happier if the maps were in color and at 1:250,000. But for a survey volume, it does its job well. Also, after seeing the prices for some national atlases, the cost of this monograph is a refreshing relief!

Mary L. Larsgaard

University of California
Santa Barbara, CA 93106

National Geographic Atlas of the World. Sixth edition. Washington, DC: National Geographic Society, 1990. 133 p. \$9.95 hardcover, \$66.45 paper. LC: 90-675129/Map ISBN 0970-4439-2

It has been ten years since the fifth edition of National Geographic's premier world atlas was published. In addition to being a standard compendium of place-names and maps, it makes use of advances in satellite imagery to present us with an

portrait of the state of the world. Indeed, as is stated in the atlas' foreword, it is dedicated to documenting the loss to humanity of billions of years of evolutionary development. Beautifully reproduced color satellite images introduce each continental section with associated text discussing the environmental state of that region. On the title page Tom Van Sant's global portrait has been reproduced: the first cloud-free satellite image of the planet. It in itself is worth some study. This edition has undergone some significant changes. The editor notes that this edition has been hand glued, not machine glued, for durability. Time will tell on this claim. New, maps focusing on worldwide environmental stresses include: "Biosphere," and "World Population." Furthermore, numerous new thematic maps focus on the each continent. These include new maps on land use and land cover, environmental stress, population, transportation, and resources and industry. Four new regional maps have been added: a physical map of the United States, and enlarged maps of the Philippines, Central America, and the Asia-Pacific region. Subject to a final review on July 1, 1990, this is the first atlas to show a *united* Germany and the merging of the Yemens. However, recent developments in Europe and the Soviet Union make this sixth edition already a picture of the world as it was. The only disappointments in this atlas — and they are few — is that the gazetteer does not contain geographic coordinates. Also the gazetteer is not noted in the table of contents. Finally, the glossy paper used in the production of the map plates does not tend to wear as well as cotton bond. Highly recommended for all but the smallest libraries.

Greg Armento

University Library
California State University, Long Beach
Long Beach, CA 90840-1901

Pearson, Frederick II. *Map Projections: Theory and Applications*. Boca Raton, FL: CRC Press, Inc., 1990. 372 p. ISBN 0-8493-6888-X

Because it is increasingly easy to construct map projections by computer, it is especially important to understand the nature of map projections and to be aware of the pitfalls of choosing projections. *Map Projections: Theory and Applications* is designed as a text for a one semester course in the mathematical aspects of mapping and cartography, but it also serves as a useful reference for those who must use projections. The book is well-organized and proceeds logically from an explanation of the problem of transforming the Earth's spherical surface to a plane, through mathematical fundamentals, the Earth's figure, analysis and formulas for specific projections, and finally to the use of projections. Although a complete understanding of *Map Projections* requires knowledge of calculus and differential geometry, there is much of value for the less mathematically literate. The introductory chapter is an exceptionally clear and non-mathematical explanation of the projection problem, distortion, scale, projection surfaces, and projection techniques. The final chapter "Uses of Map Projections," is again non-mathematical and discusses considerations of choosing projections. Pearson rightly considers this to be an art. He provides a list of recommended projections plus tables of characteristics and regions of coverage. Each chapter has an introductory section that presents explanatory material, such as definitions, and describes the contents of the chapter. These sections are clear and accessible to the non-mathematical reader even for such chapters as "Mathematical Fundamentals." A chapter on computer applications illustrates some programs and sub-routines. This is an unusual and useful addition that is not available in most other standard works on map projections.

My only criticisms are of the nitpicking variety. The illustrations are rather crudely executed with typewritten labels. However, they are understandable and, therefore, serve their purpose. In a second edition these could easily be redrawn. A second problem is the table of recommended projections, which is hard to follow.

Perhaps because of Dr. Pearson's training as a historian and as an engineer, he has been able to strike a balance between the science of mathematical analysis of projections and the art of selecting

projections. Dr. Pearson is to be commended for making a complex subject understandable.

Judith A. Tyner

Ph.D.

Department of Geography

California State University, Long Beach

Long Beach, CA 90840

Polk, Dora Beale. *The Island of California: A History of the Myth*. Spokane, Washington: The Arthur H. Clark Company, 1991. 398 p. \$39.50. LC: 89-6277 ISBN 0-87006-198-X

The uniqueness and singularity of California have often been remarked upon and written about. Separated as it is from the remainder of North America on the landward side by a true desert, California was not reached overland by European explorers until comparatively recent times. Thus neither Cabeza de Vaca nor Coronado in their extensive land journeys in the Southwest travelled to California whose Pacific coast, however, was explored by seamen including Cabrillo, Drake and Viscaïno. Maritime discoveries in the Gulf of California (Sea of Cortes) in the first half of the sixteenth century gave rise to the concept of the California as an island, a problem not finally resolved until the mid-eighteenth century. During this period of over two hundred years, various notions were put forward concerning the geography of the area and maps drawn to illustrate this. In *The Island of California: A History of the Myth*, Dora Beale Folk examines the many theories relating to this remarkably persistent geographical and cartographical idea of insular California. Part I deals with geographical myths, island paradises in general, and early Spanish approaches to California in particular; Cortes, Ulloa and Cabrillo are the leading figures in this enterprise. In Part II, the story continues with Drake and the Iberian responses to the English intrusion into the "Spanish Lake" and ends with Father Kino and his successors who finally exploded the myth. The twenty-two chapters in the book are accompanied by over fifty maps, details of maps, diagrams, title pages of books, etc. Most of the information both textual and cartographic will be familiar to students of California but the great value of the work is that the author has brought together a mass of disparate sources and served them up in a very palatable way.

Dora Folk is well-qualified to do this since she has

masters degrees in Political Science and Creative Writing, and a Ph.D. in English. She is currently Professor of English at Long Beach State University and has published, in addition to academic works, both poetry and novels. As expected, given this background, the writing style is lively, interesting and, at times, even irreverent. The bibliography is extensive, the footnotes extremely informative and the book is at once well-researched and a labor of love. A copy should be added to all large map collections, and also smaller ones in the Western United States. Many cartophiles and bibliophiles will want a personal copy. *The Island of California* is number XIII of the "Spain in the West Series" which was initiated in 1914 by Arthur Clark. Obviously over the years the output has not been large but it has included works by authorities as well-known as Herbert Bolton. All previous volumes in the series are out of print but it is a credit to the publisher that he has sustained, over such a long period of time, the production of books of great interest to those concerned with the American West. Professor Polk's volume is a worthy addition to this distinguished series.

Norman J.W. Thrower
Director
Columbus Quincentenary Programs
University of California, Los Angeles
Los Angeles, CA 90024

PUBLISHERS' ADDRESSES

Arthur H. Clark Company
P.O. Box 147071
Spokane, WA 99214 (800) 842-9286

Bear Klaw Press
926 Plum Lane
Davis, CA 95616 (916) 753-7788

CRC Press Inc.
2000 Corporate Blvd. NW
Boca Raton, FL 33431 (800) 272-7737

Geoscience Information Society
c/o American Geological Institute
4220 King Street
Alexandria, VA 22302

National Geographic Society
P.O. Box 1640
Washington, DC 20031-9861 (800) 638-4077

Old-Growth Day Hikes
P.O. Box 11288
Eugene, OR 97440

Simon & Schuster
1230 Avenue of the Americas
New York, NY 10020 (800) 223-2336

Van Nostrand Reinhold
7625 Empire Drive
Florence, KY 41022 (800) 926-2665

Atlas & Book Review Editor's Message

As the new editor of the reviews column I would like to thank Peter Stark for his eight years of toil as reviews editor. I have appreciated his assistance in the transition period and for his contribution to this issue's "Publications Received" section. Also thanks to Mary Larsgaard for her advice in the compilation of this column. I hope to have some interesting items for you in the future. If you have any suggestions for book reviews, or would like to write one for this column, please contact me.

Greg Armento

For publication information, address should read:

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PUBLICATIONS RECEIVED

Compiled by

Greg Armento

Cissel, Diane; Cissel, John; and Eberhardt, Peter. *50 old-growth day hikes in the Willamette National Forest* [maps]. Eugene, OR: Old-Growth Day Hikes, 1991. 14 color maps on sheet printed on both sides. 94 x 63 cm., folded to 23 x 11 cm. Scale ca. 1:63,360. \$7.50 postpaid. ISBN 0-9630210-0-1

The issue of preservation versus conservation of the old-growth forests of the Pacific slopes of North America can be quite complicated and emotionally charged. But what appeared quite obvious to the designers of this map and what undoubtedly led to its publication is that to understand the issue more clearly and perhaps in a more personal way, the public at large has to know how to find samples of remaining old-growth. The map in hand provides educational and interpretive information about old-growth, shows routes to old-growth areas, and describes several categories of old-growth forests. These are mapped in detailed contour map insets and are indexed by a smaller-scale map of the Willamette National Forest. Each hike has been thoroughly field checked by the map's compilers. This unique map serves as an attractive and practical guide and helps the user to find, recognize, appreciate, and enjoy the remaining old-growth forests in the Willamette National Forest.

Freeman, Michael J *Atlas of the world Economy*. New York: Simon & Schuster, 1991 167 p \$40 LC 90-26501 ISBN 0-13-0507415

This atlas focuses on the world economy drawn from the perspective of the industrialized nations. Documentation is largely supported by United Nations and British government publications. Chapters include: "Population," "Agriculture," "Energy," "Industry," "National Income," "transportation and Trade," "Labour," and "Multinationals."

Historical coverage ranges from post World War II to the Mid-1980s with emphasis on the first half of

the 1980s. Thus its scope neatly coincides with the era of socialist domination of Eastern Europe. Of the "under developed nations" covered, Africa, and to a lesser extent Asia, receive the most textual and cartographic coverage. Curiously, Latin America receives no such special treatment. Maps are in black and white. Pie diagrams, graduated circles and bar graphs serve to illustrate comparative data. Unfortunately some of the world maps are at such a small scale that the variant sizes of symbolic data are difficult to discern. Associated tables and statistics would have been helpful. Recommended for large public libraries, college and university libraries and for large atlas collections.

Geological Societies and Information Transfer in the Electronic Age: proceedings of the Twenty-fifth Meeting of the Geoscience Information Society, October 29 - November 1, 1990. Dallas, Texas. Edited by Marie Dvorzak. Alexandria, VA: Geoscience Information Society, 1991. 202 pages, paperbound. \$35.

These proceedings are divided into four parts: "Symposium," "Technical Session," "Poster Session," and a fourth part consisting of dinner speeches. It presents 25 papers: 9 invited and 16 volunteered. Paper titles include: "Geological Societies: Reflections on Current Membership, Services and Publishing Patterns," "FAX, E-Mail, Diskettes, Softstrip, and CD ROMS, Our Communication Revolution," "The Electronic GSA," "preservation of Geoscience Library Collections, Current Conditions," "Color Representation of Data in Geology," and "The Case for Desktop Publishing." It is an informative useful work for science librarians in general and earth science librarians in particular. Those desiring to read the latest in collection development trends, scientific publishing practices, and electronic database issues should benefit perusing this work. Recommended for information science, earth science, and large research libraries.

Gillard, Quentin. *Travel Geography Handbook*. New York: Van Nostrand Reinhold, 1990. (VNR Tourism and Commercial recreation series) xiv, 530 p. \$54.95. ISBN 0-442-001584

This work, produced by Quentin Gillard, president of TravelSearch of Bend, Oregon, is a concise guide which attempts to describe in 500 pages, the travel

sights each nation of the world has to offer. The book is intended for travel agents and other travel industry personnel who might need to know, very briefly yet with a worldwide perspective, what there is to see and where. The first 50 pages begin with an overview of the world's physical and cultural geography, discussing climate zones, languages, and cultural regions. The next 70 pages describe popular travel destinations and divide each nation into sections entitled "traditional destinations," "undiscovered gems," and "up and coming areas." It is interesting to note that for the United States, the author only notes one "undiscovered gem" for tourists, that being the Bend, Oregon area. The lions share of the book, (approximately 400 pages) is devoted to "individual city-resort destination highlights by continent, region and country. Most countries are covered in 2 to 10 pages of travel highlights. The book succeeds in its stated intent: that being a handbook for travel industry personnel. However, as a reference work it is perhaps overshadowed by other, more extensive travel guides devoted to one city, country, or region. Overall this book could be a useful addition to large public libraries, libraries with strong recreation interests, and large research libraries.

Book Review Guidelines

Review format: The review should be presented in three sections: 1) **the bibliographic citation**; 2) **the review**; 3) **identification of the reviewer**. Please submit your reviews on paper; an 8 1/2" x 11" bond original and one copy are required. Please do not send your reviews on floppy disks or by fax machine.

1.

The bibliographic citation should include: Author's name, title edition (if applicable), place of publication, publisher, date, number of pages, price, LC number (if known), and ISBN number (if known). An example, including correct punctuation, is given below:

Lock, C. B. Muriel. *Geography and Cartography: A Reference Handbook*. Third edition, revised and enlarged. London: Clive Bingley, 1976. 762 p. \$32.50. LC: 76-8273 ISBN: 0-208-01522-1

2.

The review should be double-spaced and follow the usual principles of paragraphing. If you compare reviewed material with other works, please include author's name, title, publisher, and date of publication within the review itself rather than utilizing footnotes.

3.

The review should be followed by your name as you wish to be cited and place of employment, including city and state.

Editorial Policies: The opinions and judgements appearing in WAML reviews are those of the author and do not reflect official sanction of WAML. The Book Review Editor retains the right to make alterations in reviews submitted. If minor revisions do not alter the reviewer's intent, they will be made without further communication. However, if the Book Review Editor feels that extensive revisions are needed, or if changes would result in altering the reviewer's intent, such editing will be made only with the knowledge and agreement of the reviewer.

Review Content: To a certain extent the contents of a work must be described; but the reviewer should avoid making the review a list of the work's contents. Rather the review should emphasize analysis, evaluation, and comparative criticism. Questions which should be considered in the review process include: What is the purpose of the work? Has the content as described by the title been fulfilled? Has the author's intent as described in the work's preface and/or introductory remarks been realized in its content? How important is this work for research in geography and cartography? Should it be included in library collections, and what kind? The length of your review should be determined by the importance of the item being reviewed.

Thank you for your attention to these guidelines. Additional reviewers are always welcome. Please feel free to recommend other qualified reviewers who might be interested in submitting reviews to the *Information Bulletin*.

Greg Armento, Book Review Editor of the WAML *Information Bulletin*, University Library
California State University, Long Beach
Long Beach CA 90840-1901
213/985-4367.



LETTER TO THE BOOK REVIEW EDITOR

Letter from the publisher concerning the review by Phil Hoehn that appeared in *WAML Information Bulletin* 22(3):231-232 (June 1991) for:

GeoKatalog. Stuttgart: Internationales Landkartenhaus, GeoCenter, 1976- . 4 volumes. *GeoKatalog* part 1, DM 160/year; *GeoKatalog* part 2, DM 450, updates DM 120/6314. LC: sn86-16698. ISBN: 3-921435-50-1. OCLC: 5765993.

The letter follows [with some slight grammatical revisions]:

Thank you for your review of *GeoKatalog 2/Geowissenschaften* in the *WAML Information Bulletin*.

However, your indication that, "All four often fail to give exact titles," (which means that *GeoKatalog* is included in this statement) is astonishing.

My opinion is that this is not correct as far as *GeoKatalog* is concerned. Since the very beginning of publishing the catalogue pages, ILH employees have always done their best to indicate the exact titles - and I am fully aware of the difficulties which we often had to observe this. To give you personally the possibility to check it, I enclose the latest *GeoKartenbrief* issue, and you will certainly discover that the indications of the titles are as exact as they can be.

In 1985, the catalogue was completely available, including all countries and regions on earth. Since that time we have tried to publish the revised catalogue in sections (updates) in a shorter succession that was the case before. Our goal is to publish revisions for all catalogue pages every four years.

Thank you very much again for the review of *Geokatalog!*

Sincerely yours,

Herbert Leuser
Internationales Landkartenhaus - ILH
GeoCenter, Stuttgart

Phil Hoehn's reply:

My review in the last issue of the *Information Bulletin* incorrectly stated that *GeoKatalog* fails to include the titles of the products it sells. In fact, unlike the other works mentioned, *GeoKatalog* does provide title information. I thank Herbert Leuser for pointing out this error.

Phil Hoehn
Map Room, Library
University of California, Berkeley



News

The IMCos (International Map Collectors' Society)-Tooley Award: This award is presented annually to the individual who, in the opinion of the Selection Committee, has been responsible for the cartographic contribution of greatest merit and widest interest to map collectors world-wide. The Award consists of a trophy, engraved each year with the name of the winner, and a voucher for 100 pounds, to be spent at Tooley Adams & Co. Ltd, 13 Cecil Court, London WC2N 4HE. The 1991 Award has been presented to Margaret Wilkes, Head of the Map Library, National Library of Scotland, Edinburgh. Presentation of the Award to Margaret Wilkes has recognized her services to map collectors and map curators in her organization of the Three Day Events, held now for ten years in association with the British Cartographic Society and the Charles Close Society. Her meticulous planning and attention to detail has ensured the success of these events. It also recognizes her helpfulness to those who visit the Map Library, whether academic researchers, fellow curators, or interested amateurs, and the spirit of cooperation and goodwill combined with professional capability she inculcates wherever she goes. Her love of maps has been shared with numerous audiences in the many talks she has given, which have spread an understanding of maps and the need for their preservation. She played an important role in the publication of the Pont mss., and was responsible for making the photographs available. Her support and encouragement to the organizers of the exhibition, *Togail Tir: The Maps of the Western Isles*, first shown in An Lanntair Gallery, Stornaway, led in 1990 to the mounting of the successful exhibition, *The Hebrides Surveyed*, in the National Library of Scotland.

Visiting Fellowships for the academic year 1992-1993 for the Beinecke Rare Book &

Manuscript Library: These are short-term fellowships to support visiting scholars pursuing post-doctoral or equivalent research in its collections. The fellowships, which support travel to and from New Haven and pay a living allowance of \$1,500 per month, are designed to provide access to the library for scholars who reside outside the greater New Haven area. The length of a grant - normally one month - will depend on the applicant's research proposal; fellowships must be taken between September 1992 and May 1993. Recipients are expected to be in residence during the period of their award and are encouraged to participate in the activities of Yale University. There is no special application form. Applicants are asked to submit a resume and brief research proposal (not to exceed 3 pages) to the Director, Beinecke Rare Book & Manuscript Library, Box 1603A Yale Station, New Haven CT 06520-1603. The proposal should emphasize the relationship of the Beinecke collections to the project, and state preferred dates of residence. The applicant must also arrange to have 2 confidential letters of recommendation sent to the Director. Areas of study are Western Americana, English or American literature, early books and mss, 18th-century British studies, and cartography and related fields. All application materials must be received by JANUARY 15, 1992. Awards will be announced in March 1992.

Vlad Shkurkin's company, Precise Maps of Old Western Towns, has received some good press coverage, in the *West County Times*, Richmond CA, 3/12/91, p. 2D, in an article entitled, "Fiery history: insurance maps tell a bureaucrat's tale of West."

From *Contours*, the newsletter of the Canada Map Office, no. 2, June 1991, p.2: "We hope to produce compact discs, read only memory (CD ROMS) of topographical

maps in the near future." The newsletter is issued (on the white sides, fortunately for the sake of clarity) of superseded topos and topo indexes.

Happy 200th Birthday to the British Ordnance Survey! See its *Publication news* for June 1991 for celebratory publications, and a history of the *Publication news*. Ordnance Survey, Publishing 2, Romsey Road, Maybush, Southampton S90 4DH, ENGLAND.

One of this year's issues of the *American mathematical monthly* (probably August/Sept.) has a first for it - an article co-authored by a map librarian - "Geographical boundary extremes," by Helen Jane Armstrong and Roger Herz-Fischler (Dept. of Mathematics and Statistics, Carleton University).

The Samuel Thornton Sea Atlas - now available on color microfiche: MicroColor International, in cooperation with the New York Public Library, is proud to announce the availability of the Samuel Thornton Sea Atlas on CIBACHROME color microfiche. "CIBACHROME Micrographic Film has been tested by the Image Permanence Institute in Rochester, New York, and is archival-quality film, rich in color saturation and extremely high in resolution," said Ara Hourdajian, President of MicroColor. This outstanding English composite sea atlas is a monument to the Thames school of chartmakers centered in London from the late 16th to early 18th centuries. "No other single Thornton sea atlas or gathering of English pilot charts in one unified collection contains anywhere as many charts, according to records in various national bibliographies and cartographic histories," said Alice Hudson, Curator of the New York Public Library Map Division. Tooley's listing of English sea atlases in his *Maps and mapmakers* cites similar material, but none so comprehensive. This remarkable collection of 172 charts on 21 color microfiche may well be the finest surviving monument to the industry in the earliest years of domestic English trade in printed charts. The sea atlas was created from a variety of sources.

The plates were purposefully gathered and arranged with a singular vision in a package unequalled in scope by any printed nautical atlas of the 18th century. All the charts are hand-colored - some in bright outline color, others with a full-color transparent wash. Many plates are surrounded by a *trompe l'oeil* yellow frame, and many charts are decorated with baroque naturalistic leafy strands setting off insets. While the atlas opens with a Mercator world map, most of the regional plates are plane charts without graduated latitudes. In the first volume, the charts flow from one ocean basin to the next, beginning with Halley's magnetic-declination chart on Mercator's projection, and Richard Greene's double-hemisphere world map. The atlas then moves into Scandinavian water, then to the Baltic and Netherlands coasts, across to the British Isles. The first volume ends by looping south to France, Spain, and Southwestern Europe. Volume 2 opens with the Great South Sea and finishes with the charts of the Straits of Gibraltar. The Thornton sea atlas was purchased by NYPL in 1942; it was probably published by Thornton in the early years of Queen Anne, and most maps bear the imprint of Samuel Thornton, but some maps were issued about 40 years earlier by other publishers. Considered individually, these charts are very rare; only 2 of Thornton's New World maps are recorded by P.L. Philips in his list of *Maps of America*. John Thornton, not Samuel, created most of the plates in the atlas attributed to Samuel. John had been a major player in the production of the English Pilot, and many charts in the sea atlas are from the Pilot, Books III and IV. On his death in 1706, John's business passed to his son, Samuel. John's name was removed from the plates (crudely in some cases), and Samuel's name inserted. Samuel did publish several atlases between 1706 and 1715. On Samuel's death in 1715, the Thornton plates were obtained by the Mount & Page firm which published Book IV of the English Pilot. Sailing the Thornton seas, embraced by coasts bound in ribbons of color, the reader to today is as transported and dazzled as were the 18th-century gentlemen who first turned its pages. In

order to make this atlas more accessible, NYPL has embarked on a preservation micropublishing project in conjunction with MicroColor International. The revenue from the sale of the color microfiche edition will be used to restore the original, which is in fragile condition. Cost is \$450 for the entire set; for a free sample color fiche, and ordering information, write to MicroColor International, 85 Godwin Avenue, Midland Park NJ 07432.

Association of Canadian Map Libraries and Archives *Bulletin*, no. 78, March 1991: Features (new books and atlases, regional news, etc.) plus: "A forgotten federal map series" by L.M. Sebert; "La municipalite regionale de Comte: une realite geographique" by Alain Caron.

California Map Society *Newsletter*, June 1991: - "Message from the President," news and notes, report of previous meeting, "Notes from here and there," by Al Newman, recent atlases and other books of interest acquired by UC Berkeley Map Room, by Phil Hoehn.

Mercator Society Newsletter, June 1991, v. 6, #2: - spring project report (Paul Pugliese, chief of maps & charts at *Time* magazine); Nebenzahl lectures; preview of John Noble Wilford's forthcoming book, *The Mysterious History of Columbus*; new books of interest; letter from the Chief. (Map Division, NYPL, Fifth Avenue & 42nd Street, NY 10018-2788; 212/930-0588).

Back into the depths of history - found by Phil Hoehn in the UC Berkeley Map Room's files, a list of the 39 largest ("or best?" Phil queries) map collections in the late 1940s: Dept. of National Defense Army Survey Establishment, Canada; Library of Congress; American Geographical Society; National Geographic Society; University

of California, Berkeley; Univ. of Chicago; Clark University; Southern Methodist University; Carleton College (given as "Northfield Carleton College"); Stanford University; Univ. of Pittsburgh; University of Georgia; "State college of Washington;" University of Michigan; Harvard University; Univ. of Colorado; Bowdoin College; Cornell College; Claremont college; University of Tennessee; Northwestern University; University of Oklahoma; State University of Iowa; University of Arizona; Oberlin College; Oregon State College; New York Public Library; Louisiana State university; University of Arkansas; Alabama Polytechnic Institute; Yale University; San Diego Public Library; Oklahoma State Library; California Academy of Science; Univ. of Hawaii; Princeton University; Univ. of New Mexico; University of Puerto Rico; Cleveland Public Library. The list is headed, "Priority Numbers - Captured Material," and came to Berkeley in 1978 in response to a request by the then map librarian, Janet Rudd.

The 5-11 Sept 1991 issue of the French weekly, *l'Evenement du jeudi* (no. 357) has a special section, "27 cartes pour comprendre l'effondrement d'un empire." The maps show the location of nationalities in the USSR and the rest of eastern Europe; the cover and an inside article show a map of European nationalities published by the Basque ETA (areas for the Occitanians, Aostans, etc.).

Rand McNally's *New cosmopolitan world atlas* will show independent Baltic nations; RMcN interrupted production of the atlas August 26, then made revisions in the Baltics after the U.S. government officially recognized the new countries September 2. The atlas is scheduled to be shipped to bookstores and other outlets during the week of October 8.

News: U. S. Federal Agencies

see next page

FEDERAL NEWS

Board on Geographic Names

See U.S. Dept. of Agriculture *Miscellaneous publication 1484, 1890-1990: a century of service.*

Center for Disease Control

The Center is developing PC-WONDER, a pc enhancement to a mainframe-housed database, to allow public-health professionals to dial in and receive health information, such as a map showing AIDS rates per 100,000 population.

Coast and Geodetic Survey

No, you are not in a time warp - it's one of those "the more things change, the more they are the same" moments. The summer 1991 (vol.3, #3) issue of the *C&GS Update*, states proudly on p. 1 that, "On May 6th, the Office of Charting and Geodetic Services became the Coast and Geodetic Survey, a name which was first used by this organization in the 1870's when the former Coast Survey became the Coast and Geodetic Survey after Congress gave the agency the additional duty of fixing the basic lines for inland maps in 1871. It remained unchanged until the formation of NOAA in 1970, when it became the National Ocean Survey. With the addition of other NOAA elements such as the Coastal Zone Management Program in 1982, the National Ocean Survey became the National Ocean Service, and this office was renamed the Office of Charting and Geodetic Services. The new Coast and Geodetic Survey is more highly concentrated in specific mapping, charting, and geodetic activities than its illustrious predecessor. ... Today's Coast and Geodetic Survey employs about 950 civil servants and is composed solely of the National Geodetic Survey Division, the Nautical Charting division, and the Aeronautical Charting Division."

Census Bureau

Pat McClammery has taken over running the TIGER software tests from Donna Koepp. The final version of the TIGER files will be an increase of about 25% over the pre-Census files. Either the June or July issue of *PC magazine* has reviews on several software packages intended for use with TIGER.

Freedom of Information Act

Senator Patrick Leahy (D-Vt.) plans to introduce a bill proposing FOIA amendments to cover both media on which records are electronically stored,

and the contents of those media. The issue: whether the public is entitled access to the computer record, or only to the information on the record (*Federal computer week*, June 24, 1991, p. 17).

J.B. Post brings up an interesting point - "It is with something of a shock that I realized that the Constitution guarantees freedom of speech but one's right to listen (or a right to information) is not specifically stated." (from a letter of 5/26/91).

General Accounting Office

See GAO/IMTEC-90-74FS, *Geographic information systems at selected agencies*, for summaries of Federal GIS systems, plus 2 basic observations (from p.1): "First, the federal government's dollar investment in GIS technology is significant. The office of Management and Budget reported in October 1988 that at least \$165 million would be needed each year to fund electronic mapping efforts, which largely include GIS. ... Second, federal government GIS applications support diverse missions."

Geological Survey

USGS announced availability of the Spatial Data Transfer Standard (SDTS) in the Federal Register of April 11, 1991; this will open a 90-day period for public comment.

As of July 1991, there are 53,689 7.5-minute maps for the U.S. (Alaska excluded). A lively MAPS-L discussion on topos noted that the microfilm reproduction of topos issued by USGS is not complete, and various topos have never been sent out on depository although they are listed in *New Publications*; the point being that our users need reliable information about "the basic map tool for U.S. research" (Helen Armstrong, in a MAPS-L message of 5/31/91).

"Topographic Instructions Supplement 91-2-C, dated 4/22/91, deletes the requirement for classifying buildings on Primary Series maps based on use; as Class 1, which houses human activities (shown as solid black or crosshatched), and as Class 2, used for identifying storage buildings or buildings for housing animals and machinery (shown by unfilled black outline or single-hatched within the outlines). Supplement 91-2-C specifies that all buildings will be shown as solid black on primary series maps. ..." Questions or comments? Phil Guss, FTS 959-6896 (from *ESIC Information Bulletin*, no. 0028, May 30, 1991).

USGS is in the process of creating 4 new CDs - first

in a series of 1:100,000-scale digital mapping discs, first geologic map on Cd, a geochemical database covering the western U.S., and one containing high-resolution color images of core samples and related geophysical information (from *SIGCAT* issue for the September 17, 1991 meeting, p. 1).

A Forum on Orthophotography was held on 5/15/90 to expand the understanding and use of orthophoto products and to discuss future user needs. At the forum, SCS proposed that a national cooperative digital orthophotoquad program be established for the conterminous U.S. using NHAP photography - 1:12,000-scale digital orthophotographs for about 75% of U.S., 1:24,000-scale for the rest. (*Higher resolution orthophotoproducts survey: summary report*. 1991. Reston: USGS).

New publication from Mapping Science Committee, Board on Earth Sciences and Resources, Commission on Geosciences, Environment, and Resources, National Research Council (it's like the begats in the Bible): *Research and development in the National Mapping Division, USGS, trends and prospects*. DC: National Academy Press, 1991. Summary recommendations: NMD develop a multiyear research agenda and commit the necessary resources to undertake the priority research; NMD establish an external-grants program; NMD maintain technological and institutional flexibility in meeting its operational needs to ensure that such current development efforts as Mark-II can accommodate changing user needs; USGS and NMD in particular continue to pursue and expand the development of standards, procedures, and specifications for spatially referenced digital data; and NMD develop programs to produce a wider variety of "non-standard" spatial-data products to support diverse user requirements (pp. 2-3). From p. 11 - "Mark-II has been designed to collect, populate, and maintain the National Digital Cartographic Data Base (NDCDB) and to generate products from it. The NDCDB will contain digital representations of the 1:24,000- 1:100,000-, and 1:2,000,000-scale map series. This topologically structured data base will support the production of the

1:24,000-scale printed maps, and digital subsets will be made available to the user community for use in GIS or other applications." DLG-E (Digital Line Graph - Enhanced) "has been adopted as the data structure for the Mark-II system" (p. 15).

Jet Propulsion Lab

In a report on the TOGA (Tropical-ocean data) CD, it was reported that of the 330 free copies of the TOGA CD (JPL Publication 9043) only 1% of the requests came from libraries. (*Report of TOGA CD-ROM Project Planning Meeting: (JPL, Pasadena, USA 25-26 April 1990)*. 1991. ITPO no. 6. International Council of Scientific Unions, World Meteorological Association, Intergovernmental Oceanographic Commission, Scientific Committee on Oceanic Research [given on title page; no place of publication or publisher, but probably JPL])

Library of Congress

Two issues of *The Library of Congress News* talk about the new computer-generated version of the historic L'Enfant plan of the city of Washington; this is the result of a 3-year cooperative effort by LC, NGS, USGS, and NPS. A reduced version of the digital image appears as a foldout in the 8/91 *NGS magazine*. Copies, along with color facsimiles of the original manuscript, are available from LC for \$35 per set; they are the same size as the original mss, and are accompanied by a brochure. Descendants of Andrew Ellicott visited LC, whose early surveys of the Territory of Columbia are part of LC's holdings.

National Geophysical Data Center

NGDC has available for purchase six sets of digital data on CD: *Solar variability affecting Earth; Deep Sea Drilling Project (DSDP); Gulf of Mexico Gloria data; Geophysics of North America; DMSP SSM/I brightness temperature grids for the polar regions; and Nimbus-7 SMMR brightness temperature grids for the northern hemisphere*. For ordering information, write NGDC at 325 Broadway, E/GC4, Dept 852, Boulder CO 80303-3328.

Budgets for Acquisition of Spatial Data

As many of us have noticed, money for spatial-data acquisitions is getting tight (especially for those of us working for state institutions in states whose budgets are in big trouble). One way to assist each of us in obtaining as big a materials budget as we can is to have comparative data from other map collections. I am therefore requesting that you send to me by mail (Mary L. Larsgaard, Map & Imagery Lab, Library, University of California, Santa Barbara CA 93106), fax (805/893-4676) or email (lb08mll@ucsbvm.bitnet), as is convenient for you, the following figures for your collection. This is one of those cases where effort will be rewarded; any map librarian sending me the following information by

end of January 1992 will receive the information that other librarians have sent me, in as detailed a fashion as I receive it - in time for planning for the next budget cycle. Those who do not will see, at some future time (perhaps March of 1992) a summary article (which I'll send to as many editors of map-libraries periodicals as I can think of). MANY THANKS!

1. Total number of items (maps, imagery, atlases, etc.)
2. Acquisitions budget of map library
3. Monies obtained from other budgets within your agency (e.g., from other collection funds, departments, institutes, etc.)
4. Primary areas of purchasing
5. Comments

Mary L. Larsgaard, Map & Imagery Lab, Library,
University of California, Santa Barbara CA 93106, fax (805/893-4676)

Digital News

The CD Atlas Company (1450 Worcester Road, Suite 8207, Framingham MA 01701; 508/626-1354) has introduced a project to produce a satellite photo-atlas of the world on a single CD-ROM disc. The user will see photographs of the actual surface of the Earth; overlays with map information may be added and removed, and scales and boundaries changed. Object is to come up with a disc that will cost less than \$100, and will run on any IBM AT (or compatible) pc with VGA display and CD drive.

From J.B. Post (Free Library of Philadelphia): I was in the Harrisburg PA area on 5/15/91 at an all-day hands-on workshop on Atlas/Graphics, a desk-top mapmaking program, strictly on my own time and for personal interest; it was one of the best \$50 I ever invested in a workshop. GISs were demonstrated briefly, but the main thrust of the workshop was on desk-top aspects (using Census data) almost anyone can do; we played with formatting variations, and I have to say that for most persons, the desk-top programs are quite adequate in serving normal need - it would be nice to layer data, but ... there is the extra cost. But this is not to praise one program among many, but rather to record some random thoughts about the whole matter. We may well be having a resurgence of map awareness because of these desk-top programs. As with writing on a computer, every person can be a Henry James (at least in the sense of rewriting), so each person can be his own Mercator as well. In one sense this is good, but I get the feeling some users think they have invented maps as spatial displays of data. One gets such attitudes about everything and it shouldn't bother one, but having carried the

torch of spatial displays for years, this annoying minority of upstart users can get to map librarians - and ex-map librarians.

American Digital Cartography (715 W. Parkway Blvd., Appleton WI 54914) has a periodical, *ADC projections*; v. 1, #1 is April 1991.

From *American Libraries* for June 1991 (p.476), who in turn got it from *Infoworld* - it's the agreement by 7 major computer manufacturers on a *de facto* standard for multimedia computing: Intel 80286 CPU; 2 MB RAM; 8-bit VGA with 256 colors (converts to gray scale on 16-color VGA); 3.5-inch 1.44MB floppy drive; 30 MB hard drive; CD ROM drive (1-second seek time, 150 KB-per-second transfer rate); audio support (including mixing capabilities); Windows 3.0 with multimedia extensions.

MAPS-L continues to provide snippets of useful information; one message from Rick Broadhead on the discrepancies between time-zone maps of the world. Below is just one example: Nauru is 12 hrs ahead of GMT according to the CIA, 11 hrs & 30 min. ahead of GMT according to *World Book* and *Encyclopedia America*. He went on for 2 pages with examples. MAPS-L had over 250 subscribers as of the end of May 1991. If you'd like to subscribe, see previous issue of IB for information, or get in touch with Johnnie Sutherland, Map Library, University of Georgia, Atlanta.

If you'd like to participate in a listserver for Geographic Information Systems - to subscribe, send the command: SUB UIGIS-L your name to

LISTSERV@UBVM or
LISTSERV@UBVM.CC.BUFFALO.EDU
via a mail message.

The Midlands Regional Research Laboratory and Computers in **Teaching Initiative Centre for Geography** at the University of Leicester requests expressions of interest from agencies in the UK using IDRISI and OSU MAP, 2 low-cost GIS systems. IDRISI (\$200 from Graduate School of Geography, Clark University, Worcester MA 01610) is a grid-based GIS software with basic image-processing modules (e.g., contrast enhancing).

Read it and be amazed: definition in a *Glossary of GIS and ARC/INFO terms* (put out by Environmental Systems Research Institute) - librarian: a set of software tools used to manage and access large geographic data sets in a map library. Librarian commands create and define a map library, move data in and out of a library, query information about the data in a map library, and display the results of a query. (p. 22; 12/89)

GIS world once again has a crackerjack issue for August 1991 - "GeoSphere Project brings Earth to life," "GIS powerful aid to local governments" (one article on GIS use in the California drought), and much more.

NEWS: REMOTE SENSING

"EOS consists of a space-based observing system, a Data and Information System (EOSDIS), and a scientific research program. It represents the initiation of a comprehensive, global observing system with broad and high-resolution spectral and spatial, as well as long-term temporal, coverage of the Earth. The space component will consist of two series of polar-orbiting platforms, with launch of the first platforms in FY 1998. EOS will continue and integrate the measurements now being taken by short-term research missions. It will provide the first coordinated simultaneous measurements of the interactions of the atmosphere, oceans, solid earth, and hydrologic and biogeochemical cycles. ... EOSDIS will be a state-of-the-art information system to foster rapid and easy access for users" (*GISDEX Express*, Spring 1991, p. 1).

"The Large Format Camera (LFC) was developed by NASA in the mid-1970's to demonstrate the feasibility of taking high-resolution, stereo photography from space. The LFC was used on Space Shuttle mission STS 41-G in October 1984 to collect 2,247 frames of imagery, most could-free and high quality. It has never been flown again, and currently sits in indefinite storage" (from p. 8 of the Spring AAG GIS newsletter); for further detail, see the June 1991 issue of *Advanced imaging* 6(6), an article called "Object lesson: will this camera ever get off the shelf?" Free subscriptions to AI are available to remote-sensing professionals by writing to PTN Publishing CO., 445 Broad Hollow Road, Melville NY 11747.

From the June 1991 issue of *Spotlight* (SPOT Image Corporation newsletter): SPOT recently delivered complete coverage of Bangladesh, in the form of 217 "GEOSPOT" image maps to the government of that country, and is negotiating a contract to provide 600 additional GEOSPOT maps at 1:50,000, acquired over the next 5 years, to help with flood control and regional development programs in Bangladesh. SPOT is also selling some gorgeous posters, of the Bahamas, New York, Anguilla/St. Martin/St. Bart, San Francisco, Hong Kong, Madrid, London, Rome, Boston, and Kuwait. \$25 each plus \$3 shipping to SPOT Image Corp., 1897 Preston White Drive, Reston VA 22091-4368; ATTN: Specialty Products.

RADARSAT, a Canadian-designed and -controlled satellite, will be launched by NASA in 1994. RADARSAT will use C-band radar; a variety of products will be offered; for more information, see p. 34 of the May 1991 *GIS World*.

Earth Satellite Corporation and the Mongolian Geologic and Geophysical Exploration Company, Ltd have entered into a joint venture; EarthSat will market and distribute the Mongolian geological data (compiled and translated into English).

Map Cataloging Update

by

William E. Studwell

News from Canada

In 1990, the Association of Canadian Map Libraries and Archives published a document (xiii, 66 leaves) with the title, *National Union Catalogue of Cartographic Materials: A Feasibility Study*. Prepared by Jane Beaumont, Library and Information Systems Consultant, in coordination with various Canadian organizations, the study made the following recommendations:

1) Creation of a true Canadian national union catalog is not a viable option at present. Instead, a suggested alternative to a centralized catalog would be the creation of regional centers of expertise with on-line access to the catalogs of these centers. The centers could be the basis for a national union catalog in the future.

2) A Canadian national bibliography of cartographic materials is achievable, both on a technological and administrative basis.

For copies of the document (ISBN 096950621X), contact:

Association of Canadian Map Libraries & Archives
c/o National Cartographic & Architectural Archives
National Archives of Canada
Ottawa, Canada K1A 0N3
613/992-8188

In March and April 1991, the Committee on Geomatics of the Canadian General Standards Board produced three thorough, detailed, meticulous draft documents, plus several memoranda, all intended to move toward the development of standards for data interchange in the area of geomatics. The documents are entitled, "Technical Criteria for the Evaluation of Existing Interchange Standards," "Evaluation of Existing Interchange Standards: Executive Reports," and "Evaluation of Existing Interchange Standards: Technical Reports." For more information, contact:

Jamie Hillman, Committee Secretary
Committee on Geomatics
Canadian General Standards Board
Ottawa, Canada K1A 1G6
819/956-0403

[Ed. note: This committee is certainly going at it hammer and tongs. If you have an interest in cataloging spatial data in digital form, or indeed in dealing with it at all, it's well worth your time to get copies of the documents.]

Cataloging News

by

Mary L. Larsgaard

The Map On-line Users Group (MOUG) met Monday, July 1, at the Georgia State University Library, from 3:30 to 5pm. The program was, "MapGrafix: The World of Intelligent Mapping," by Paul Toomey, ComGrafix, Inc. For further information, get in touch with James O. Minton, University of Tennessee, email minton@utkvx; 615/974-4315.

This summer at ALA's Annual Conference, Elizabeth Mangan (Geography and Map Division, Library of Congress) gave a report to the MAGERT (Map & Geography Round Table) Cataloging and Classification Committee on LCG&M's activities; following is what your Editor could decipher from her notes. The MARCMap file is now about 190,000 records, and thus will fit on about one CD-ROM; Betsy is therefore talking to CDS (Cataloging Distribution Service) about having all map records put

on a CD, since they are looking for possible spin-offs from its CD products. LCG&M is no longer adding outside records to NUC. Some changes in AACR2:

3.4B2 DELETE "When appropriate."

3.5B4 CHANGE "section" to "segments."

Betsy handed out copies of the draft recommendations of the Subject Subdivision Conference (Airlie House, 9-12 May 1991); you'll be pleased to know that geographic subdivisions are still kosher, and that the conference recommends that LC simplify the subdivision system. Betsy also handed out copies of a proposal to be taken to MARBI by Betsy, on Field 007 for maps; the idea here is to incorporate additional characteristics from UNIMARC into USMARC. After some discussion, it appeared that while remote-sensing imagery was taken care of by the codes, such items as well logs were not; Betsy will hold off on turning the recommendations into MARBI until necessary additions have been made. Mary Kay Pietras (LC Subject Cataloging) has requested from the map-cataloging community a formal request for subject headings for remote-sensing imagery, to include definitions, how it would be used, and how used in contradistinction to subject headings for books about remote sensing. LC does not catalog rsi and therefore won't be getting into this; Helen Armstrong (University of Florida) and Mary Larsgaard (UCSB) will be working on this, and would certainly welcome any assistance. Yes, the *Map Cataloging Manual* IS out; conflicting reports as to whether it will be a depository item or not - CDS is selling it, in either case, and inexpensively (\$30).

I've sent off a letter to NOTIS asking how to start up a Cartographic Materials SIG (Special Interest Group); if you're interested in swelling the ranks of this group, let me know (email lb08mll@ucsbvmlib.bitnet; Map & Imagery Lab, Library, UCSB 93106).

Map availability records on GPO cataloging tapes; GPO's practice of producing multiple availability records with the same OCLC control number makes it difficult for many local systems to deal with these records. On December 9, 1991, GPO will begin to provide permanent map-availability records by creating a separate cataloging record for each quad, with its own unique OCLC control number; the startup date is chosen so that records reflecting the new procedure will first appear in the 1/92 GPO cataloging tapes. Questions? Laurie Beyer Hall, Chief, Cataloging Branch, Mail Stop SLLC, USGPO, Washington, D.C. 20401, 202/ 275-1128.

cART-DECO

If you like silk scarves with maps on them, you're going to be hard-pressed to choose just one from this group:

1. Reproduction of 1792 L'Enfant's plan of the city of Washington, \$22.95 from Madison Sales Shop, Library of Congress, Washington, D.C. 20540.

2. From the Boston Museum of Fine Arts (Catalog Sales Dept., POB 1044, Boston MA 02120-0900), an item billed as a classical-coin scarf (35" square) - actually a map of the Mediterranean, with a coin border and coins of the realm placed in appropriate geographical areas. \$48.00; #40242-437.

3. And from the World Wildlife Fund (POB 224, Peru IN 46970) 36"-square silk scarf, with a world sphere surrounded by animals and in decorative medallions. \$65.00; #686565.

As you would expect, the World Wildlife Fund has several cartifacts - a globe tree-light set (686751; \$25), a glass globe paperweight (669032; \$22.50), and MapWrap (2 sheets each of antique & modern cartographic view of the world; 686255; \$6.25). The National Wildlife Federation (1400 Sixteenth Street, N.W., Washington, D.C. 20036-2266) really gets into combining animals with Earth - a globe that, when unzipped and turned inside out, is an elephant (Earth Mate Elephant, 21549, \$19.95).

If scarves aren't for you, how about a map kerchief (G177 London Map Kerchief, \$19.95; What On Earth, 2451 Enterprise East Parkway, Twinsburg OH 44087-2399), or a t-shirt? What On Earth has at least 3 different t-shirts with an Earth motif, ranging in price from about \$10 to about \$25; it also has the Earth Mate Elephant, but for \$22.95. If you'd prefer to benefit higher education with your t-shirt purchase, how about the Geographic-Information-System (with the classic "layers" GIS graphic), \$25.00 from ACSM/ASPRS Chapter, Boardman Hall, University of Maine, Orono ME 04469. Or you could get the Rand-McNally-Map sunshade (cardboard sunscreen for the front window of your auto); Jim Minton got his at a Walmart for \$1.95. Or address labels - P3139 Globe design, 250 labels for \$6.68 from Walter Drake & Sons 921 Drake Building, Colorado Springs CO 80940; 719/596-3854); OR address labels sporting your state of choice; [state]-W99, 300 for \$3.95 from Colorful Images, 6711 Winchester Circle, Boulder CO 80301 (fax 303/530-1604 if you just can't wait). Or paper napkins - of New York (1855), Moscow (1856), or

Paris (1857), \$15.00 per set of 100 from Museum of Modern Art, Mail Order Dept., POB 2534, West Chester PA 19380-0308. How about an edible map? Signals (POB 64428, St. Paul 55164-0428) has chocolate maps - Grand Canyon (19045), Great Smoky Mountains (19605), and Yosemite (19046).

And now for the literature side of this column, starting with a cartoon. Gary Larson strikes again, with a man & woman in a car, the woman reading

a map whose title is "Nowhere", and saying, as she sees a sign at the side of the road, "Entering the Middle" - "This is just going from bad to worse." And ending with Arthur Clarke, I believe from a book on fractals; on p. 253, he says:

The Mandelbrot Set is, as I have tried to explain, essentially a map. We've all read those stories about maps which reveal the location of hidden treasure.

Well, in this case - the map is the treasure! §

Remote-Sensing Imagery Questionnaire

If your library has a collection of aerial photography or satellite imagery, and you have not filled out the following questionnaire, please do so. This provides information of value to each of us, enabling us to find out where imagery that our users need is located; results will first be published in the SLA Geography and Map Division *Bulletin*, probably the November 1991 issue, and following that in the March 1992 issue of the WAML *Information Bulletin*. Send in filled-out questionnaires to Helen Armstrong (address at end of questionnaire) by MARCH 31, 1992. Thank you for your cooperation!

Dear Colleague:

Have you ever had a person ask for some aerial photography, know that you did not have it in your collection, and wonder who did? The object of this questionnaire is to make it easier for you to find out this type of information. We know that this is a busy time for everyone, so we put this questionnaire together in such a way that you can fill it out in a couple of minutes without recourse to massive amounts of paper. If you have a brochure describing your aerial photo/satellite imagery collection, free simply to send us that brochure. Please do fill out the cataloging portion of the questionnaire.

The results of the completed questionnaire will be analyzed and a paper presented during the 50th Anniversary meeting of the Special Libraries Association, Geography and Map Division in San Antonio on June 12, 1991. The results will be published as widely and expeditiously as possible in a variety of map librarianship publications. If you wish to receive a copy of the results sooner, please note that in the comments section.

Thank you very much for taking the time out of what we know is a busy day. If there is another collection in your organization that should be included in this survey, please provide a copy of the survey to the appropriate person(s)/agencies. Because of convention deadlines, we would greatly appreciate your returning the completed questionnaire by May 17, 1991 to Dr. Armstrong. Thank you in advance for your cooperation.

Sincerely,

HelenJane Armstrong
Map & Imagery Library
University of Florida
email HJARMS@NERVM.BITNET

Mary L. Larsgaard
Map & Imagery Laboratory
University of California
Santa Barbara

**SURVEY OF REMOTE SENSING IMAGERY IN U.S. LIBRARIES
1991 INVENTORY AND ACCESS QUESTIONNAIRE**

Please type or print.

I. Person in charge: _____
 Title: _____
 Organization: _____
 Address: _____

 Telephone: _____
 FAX number: _____
 E-mail: _____

II. Please indicate types, dates, amounts and geographical areas of remote-sensing imagery holdings in your library. **DO NOT INCLUDE PHOTO-MAPS. IF YOU ALREADY HAVE A LIST OF HOLDINGS, PLEASE ATTACH;** in this case, you need not fill out this section.

A. Aerial photographs

1. U.S. Dept. of Agriculture/ASCS/SCS contact prints:
 - a. Please specify geographic areas:
 States: _____ Counties: _____
 Regions _____ Others: _____
 - b. Earliest date _____ Latest date _____
 - c. Total number of frames _____

2. U.S. Geological Survey (including NHAP/NAPP prints)
 - a. Please specify geographic areas:
 States: _____ Counties: _____
 Regions: _____ Others: _____
 - b. Earliest date _____ Latest date _____
 - c. Total number of frames _____

3. Aerial photographs from other Federal agencies
 (Please indicate predominant geographic areas, agencies, dates, & total number of frames)

4. Aerial photographs from state or local agencies
 (Please indicate predominant geographic areas, agencies, dates, & total number of frames)

5. Aerial photographs from private surveys
 (Please indicate predominant geographic areas, agencies, dates, & total number of frames)

B. Satellite imagery (DO NOT INCLUDE PHOTOMAPS)

1. LANDSAT

- a. Imagery from LANDSAT 1 ___ 2 ___ 3 ___ 4 ___
5 ___ No predominant mission ___

Geographic areas:

- b. Percent that are: color IR ___ % natural color ___ %
thermal ___ %

- c. Dates (percent of holdings): 1972-79 ___ %
1980-85 ___ % 1986-present ___ %

- d. Total number of: prints ___ slides ___
digital tapes ___ film ___ microforms ___
other (please specify) _____

2. SPOT

- a. Imagery from SPOT 1 ___ % 2 ___ % no predominant
mission ___

b. Geographic areas:

- c. Percent that are: color IR ___ % natural color ___ %

- d. Dates: 1986-88 ___ % 1989-present ___ %

- e. Total number of: prints ___ digital tapes ___
slides ___ film ___ microforms ___
other (please specify) _____

3. Other land-observation satellites.

(Please specify satellite, format of holdings,
geographic coverage, dates, and number of images)

- 4. Weather satellites, e.g., NIMBUS; GOES (Please
specify satellite, format of holdings, geographic
coverage, dates, and number of images)**

**C. Microwave remote sensors, e.g., SEASAT; SLAR; GEOSAT
(Please specify sensor, holdings format, geographic
coverage, dates, and number of images)**

**D. Space Shuttle/SKYLAB (Please specify sensor, holdings
format, geographic coverage, dates, and number of
images)**

1. Aerial photographs:
2. Radar:
3. Other:

III. Access to Images

Please indicate how your images are classified, cataloged, and accessed. Specify when aerial photographs and space imagery are handled differently.

- A. Which classification system is used?
 1. LC__ AGS__ Dewey__ Other_____
 2. Within this classificatin system, images are arranged by:
 a. sensor and/or flightline number:
 b. path/row:
 c. in-house system (please describe, or attach information):
- B. How are collections cataloged?
 1. In house____ online utility____
 2. Which format is used (if online)?
 3. Which utility is primarily used? OCLC__ RLIN____
 None__ Other____
 4. What percent is cataloged?
 5. In what format is your catalog?
 card__ COM__ online__ computer printout__ other____
- C. Accessibility/finding devices
 1. Photomosaics or indexes:
 2. Bibliographic listings of each image: on pc____
 online catalog____ printed list____
- D. Is imagery collection open to public without staff assistance? Yes__ No__
- E. Does imagery circulate from the library? Yes__ No__
- F. Is imagery available on interlibrary loan? Yes__ No__
 If yes, please note any restrictions:
- G. Are copying facilities available for imagery? Yes__ No__
 If yes, please indicate facility: photographic reproduction__ photocopy____ other_____
- IV. Exchange of Duplicates
 A. Are you interested in receiving gifts of imagery from other libraries' duplicates? Yes__ No____
 B. If yes, will your library pay postage? Yes__ No__
 C. Do you have duplicate imagery available for exchange? Yes____ No____
- V. Additional comments:

PLEASE RETURN COMPLETED QUESTIONNAIRE BY MAY 15, 1992 TO:

HelenJane Armstrong
 Map & Imagery Library MSL 110
 University of Florida Libraries
 Gainesville FL 32611

or fax it: 904/392-7251

or email it: hjarms@nervm

THANK YOU FOR YOUR TIME!

**WESTERN ASSOCIATION OF MAP LIBRARIES
FALL CONFERENCE 1991
Western Washington University
Bellingham, Washington**

PROGRAM & ACTIVITIES

WEDNESDAY, SEPTEMBER 18, 1991

WAML Executive Board: Arntzen Hall
Early-bird barbecue at WWU Lakewood Facility - Lake Whatcom

THURSDAY, SEPTEMBER 19, 1991

Conference registration & Meetings: Arntzen Hall
Opening and announcements:

Dr. Roland De Lorme, Provost and Professor of History
Michael Noga, WAML President
Janet Collins, Conference Chair

Dr. James B. Rhoads, Director, Graduate Program in Archives and Records Management, Professor of History, WWU; former Archivist of the United State of America: "Conservation of Cartographic Materials"

Break and vendor displays.

J.K. Herro, Map Librarian, Stanford: "Loma Prieta Earthquake and Stanford's Map Collection"
Dr. Vladimir S. Kusov, Docent of Cartography, Geography Department, Moscow State University: "Count Nikolai Rumiantsev and Russian Exploration of Alaska and North America"

Lunch

Duncan Stacey, Industrial Historian, Vancouver, B.C.: "Use of Historical Maps, Plans, Blueprints, etc. in the Study of Industrial Fishery Complexes in the Pacific Northwest"

Introduction of vendors — Break and vendor displays

WAML Business Meeting & Sounding Board

Dinner — The Marina Restaurant

FRIDAY, SEPTEMBER 20, 1991

Vendor displays & Map Library tour

Kirsty Burt, GIS Manager, City of Bellevue: "GIS Applications in Planning"

Break and vendor displays

Susan Balikov, GIS Coordinator, Wilderness Society: "Old Growth Forest Mapping Projects"

John Kawula, Map Librarian, University of Idaho: "Recent Idaho Geological Survey Activities"

Sev Crowther, Regional Chart Superintendent, Pacific Region, "Canadian Hydrographic Service, Its Mandate and the Challenges of the 21st Century"

Break and vendor displays

Monica Gowan, GeoLogic Company

"Maps and Public Decision Making: Uses and Abuses"

Dr. John Miles, Dean, Huxley College of Environmental Studies: "Komo Kulshan - The Story of Mt. Baker"

Wine and cheese reception, Canada House, WWU

SATURDAY, SEPTEMBER 21, 1991

Optional day trip to Mt. Baker.

Transportation by commercial bus. Mt. Baker (10,778 feet) is located 60 miles east of Bellingham. The weather was beautiful and the surrounding slopes were covered with fall colors. The guest speaker and guide was **Terri Plake**, who has worked for the U.S. Forest Service, and is currently working for Whatcom County as a Wetlands Specialist.

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**Summaries of Papers
presented at the
March 1991 WAML Conference
University of California,
Santa Barbara**

**The Practicalities: Minimum Investments,
Servicing, More**

by

Dr. Jeffrey Star

Geography Remote Sensing Unit, UCSB

OUTLINE

1. Introduction: The hardware and software required to be able to access, store, and manipulate spatial data have changed dramatically in the past few years. We'll visit a few milestones of the past several years, using the UCSB Map and Imagery Laboratory as a case study.

2. Hardware: The list of 'different' kinds of hardware for spatial-data archive is rather short, but each kind can have hundreds of options. We'll briefly review what the elements are, as well as some of the specifications that are most important.

3. Software: The most difficult selection for any facility is that of the software. In my view, this is the most complex problem, and the place where industry has the least to offer. We'll talk about some commercial and non-commercial software for the storage and manipulation of spatial data.

4. Networks: Interconnecting computing machines is one of the most practical means to get a great deal done with minimum cost. We'll examine some general network issues, as always, using the UCSB Map and Imagery Laboratory as a case study.

5. Maintenance: Software, hardware, and networks all require maintenance. The most important element in a maintenance plan is the human resources that are made available to make sure that the systems continue to satisfy their users.

6. Building your own archive - an example of costs:

CPU	\$25,000
Memory & network	10,000
Disk storage	12,000

Tape device	5,000
Workstations	8,000
Maintenance	10% of cost
Site preparation	1,000
Power/heating & cooling —	
— (if library is already air-cond.)	_____
TOTAL:	about \$61,000

**Funding for
the Map & Imagery Laboratory's
Digital Equipment Corporation System**

by

John Vasi

Associate University Librarian - Facilities,
Library, UCSB

- 1. Relationship between MIL and library:**
 - laboratories and traditional library departments:
 - differences in mission
 - non-traditional library costs
 - differential between MIL needs and bibliographic needs
- 2. Cost of system:**
 - a. list and discounted prices for basic equipment
 - b. other desired equipment
- 3. Funding sources and rationales:**
 - a. Strategies - general campus need; putting together a coalition; presentation to the campus
 - b. Funding commitments for DEC (Digital Equipment Corporation) system
 - c. Actual problems:
 - restricted/grant funds
 - non-payment (e.g., check is in the mail)
 - fiscal-year considerations
 - priority of DEC vs. general library with campus
- 4. Other one-time costs:**
 - a. power conditioning
 - b. system-manager training
 - c. connection to campus broadband network
- 5. Continuing costs:**
 - a. system manager position
 - b. maintenance contract
 - c. programming assistance

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The **Western Association of Map Libraries** is an independent association of persons & educational and business institutions. The Membership has defined, beginning in 1967, its **Principal Region** as follows: the Provinces of **Alberta and British Columbia**, and the States of **Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming**.

The **Information Bulletin** is published by the **Western Association of Map Libraries**, as its primary tool of communicating with its Membership and Subscribers, but opinions expressed herein do not necessarily reflect an official Association position.

Membership in WAML is open to any individual, institution, or business interested in furthering the Purpose of the Association, which is "to encourage high standards in every phase of the organization and administration of map libraries." **Send Membership checks to the WAML Treasurer at the address shown below.** Make checks payable to "WAML", or the "Western Association of Map Libraries". **All memberships begin July 1.**

WAML and its **Information Bulletin** operate on a **Membership Year/Volume Year** basis. **and subscriptions begin July 1 and end on June 30 the following year.** Mid-year joiners/subscribers will receive back-issues for that year. **Back Issues** of the **Information Bulletin** are available for \$10.00/vol or portion thereof from the Business Manager.

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Submission of Material for Publication

Copy Deadlines are: Issue # 1: September 1st; Issue #2: January 1st; Issue #3: April 1st.

If you have contributions for the **IB**, the Editor will appreciate receiving your material in electronic form. You may send it via E-mail on BITNET, EDU, ARPANET, INTERNET, UUCP to the Executive Editor. You may also send material on magnetic disk, 3.5 inch or 5.25, MS-DOS format preferred (Word or WordPerfect).

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Western Association of Map Libraries

Occasional Papers

ISBN 0-939112-

- 1973 *Catalogue of Sanborn atlases at California State University, Northridge* / by Gary W. Rees and Mary Hoerber. O P No. 1. LC # 73-5773 ISBN -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. O P No. 2 LC # 76-6129 ISBN -02-7 [ISBN 0-939112-02-7 *Out of Print*]; Microfiche edition now available. 0-939112-16-7 \$4.00
- 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. O P # 3 LC # 76-2129 Rev.; ISBN 03-5 \$6.00
- Occasional Papers 2 and 3 when ordered together: ISBN 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. OP # 4 LC # 78-15094 ISBN 05-1 \$6.00
- 1978 *The maps of Fiji: a selective and annotated cartobibliography* / by Mason S. Green. OP # 5 LC # 78-24066 ISBN 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. OP # 7 LC # 80-24483 ISBN 08-6 \$6.00
- 1981 *Microcartography: applications for archives and libraries* / edited by Larry Cruse, with the assistance of Sylvia B. Warren. O P # 6 LC # 81-19718 ISBN 07-8 \$20.00
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