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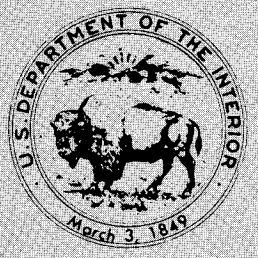

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FAIRBANKS, Alaska–New Federal Bldg., 101 Twelfth Avenue

Survey maps are also sold by some 2,500 commercial dealers throughout the United States. Prices charged are generally higher than those shown on this list. Dealers are listed in State indexes to topographic maps, which are obtainable free of charge by mail or over the counter from Geological Survey offices listed on this page.

PUBLICATIONS OF SPECIAL INTEREST

Bulletin 1659

The National Earthquake Hazards Reduction Program; scientific status, by T. C. Hanks. 1985. 40 p. $1.75.

This report sets forth the significant scientific accomplishments of the National Earthquake Hazards Reduction Program, on the basis of letters and discussions by numerous scientists from Government, academia, and industry. Stimulated by several major earthquakes in the early 1970's, the Earthquake Hazards Reduction Act of 1977 (Public Law 95-124) established the program with funding to four Federal agencies, including the U.S. Geological Survey. The objectives of this program are not only the advancement of scientific knowledge but also the application of this knowledge in effective implementation of hazard-reduction policies and emergency-preparedness plans.

IMPORTANT NOTICE

Prices of Government publications are subject to change. Increases in costs make it necessary for the Superintendent of Documents to increase the selling prices of many publications offered. As it is not feasible for the Superintendent of Documents to correct the prices manually in all previous announcements and publications stocked, the prices charged may differ from the prices in the announcements and publications.

All USGS book publications have increased in price. The minimum for any USGS book publication is $1 with the exception of circulars which are free in limited quantities. This applies to all publications previously advertised, including those books in the "List of Geological Survey Geologic and Water-Supply Reports and Maps" for each State.

Those wishing to be placed on a free subscription list of the monthly catalog "New Publications of the U.S. Geological Survey" should apply in writing to the U.S. Geological Survey, 582 National Center, Reston, VA 22092. Subscribers to this announcement are requested to provide notice for change of address promptly, giving new and old addresses and zip codes. Include a current address label. Send to U.S. Geological Survey, 582 National Center, Reston, VA 22092.

BOOKS

PROFESSIONAL PAPERS

Professional papers are mainly comprehensive scientific reports of wide and lasting interest and importance to professional scientists and engineers. Included are reports on the results of resource studies, and of topographic, hydrologic, and geologic investigations. They also include collections of related papers addressing different aspects of a single scientific topic.

P 0560-D. Geology of the Arabian Peninsula; sedimentary geology of Saudi Arabia, by R. W. Powers, L. F. Ramirez, C. D. Redmond, and E. L. Elberg, Jr. 1966. p. D1-D147; 10 plates in pocket. (Reprint.) $11.

P 1054-C. WYOMING. Hydrothermal alteration in research drill hole Y-3, Lower Geyser Basin, Yellowstone National Park, Wyoming, by K. E. Bargar, and M. H. Beeson. 1985. p. C1-C23. (Hydrothermal studies in Yellowstone National Park, Wyoming.) $1.75.

Y-3, a U.S. Geological Survey research diamond-drill hole in Lower Geyser Basin, Yellowstone National Park, Wyoming, reached a depth of 156.7 m. The recovered drill core consists of 42.2 m of surficial (mostly glacial) sediments and two rhyolite flows (Nez Perce Creek flow and an older, unnamed rhyolite flow) of the Central Plateau Member of the Pleistocene Plateau Rhyolite.

P 1305. MISSOURI. The ground-water flow system in northern Missouri with emphasis on the Cambrian-Ordovician aquifer, by J. L. Imes. 1985. 61 p.; 1 plate in pocket. $4.75.

Structure-contour maps and geologic sections depict the broad structural features and regional stratigraphy of hydrologically important formations in northern Missouri. Potentiometric-surface and water-quality maps show the ground-water flow pattern in the Mississippian and Cambrian-Ordovician aquifers. A calibrated ground-water model of the Cambrian-Ordovician aquifer has been used to simulate the effects of two potential ground-water withdrawal rates to the year 1990.

P 1347. GEORGIA, FLORIDA. Sediment sources and transport in Kings Bay and vicinity, Georgia and Florida, July 8-16, 1982, by D. B. Radtke. 1985. 120 p. $5.25.

Water-quality, bottom-material, suspended-sediment, and current velocity data were collected during July 1982 in Kings Bay and vicinity to provide information on the sources and transport of estuarine sediments. Data suggest that the area in the vicinity of lower Kings Bay is accumulating deposits of suspended sediment transported from Cumberland Sound on the floodtide and from upper Kings Bay and from the tidal marsh drained by Marianna Creek on the ebbtide.

BULLETINS

Bulletins contain significant data and interpretations that are of lasting scientific interest but are generally more limited in scope or geographic coverage than professional papers. They include the results of resource studies and of geologic and topographic investigations; as well as collections of short papers related to a specific topic.

B 1555. COLORADO. Summary of the geology, economic aspects, and geochemistry of the Schwartzwalder uranium-bearing area, Ralston Buttes District, Jefferson County, Colorado, by E. J. Young. 1985. 32 p.; 2 plates in pocket. $4.50.

The prime example of a pitchblende vein deposit in the United States is the Schwartzwalder Mine. Two smaller mines and six prospects, all uraniferous, occur in the same general area. Exceptionally favorable structure, nearby source rocks containing uranium, and a magmatic heat source are factors contributing to the relatively large Schwartzwalder deposit. Almost all of the uranium produced from the Front Range has come from the Schwartzwalder deposit; maximum production from this deposit alone will probably reach 10 million kilograms. By comparison, the other uraniferous mines and prospects lack the complex, extensive structural control of the Schwartzwalder deposit and these mines are geochemically different because they are richer in bismuth, copper, and silver and have less uranium.

B 1599. CALIFORNIA, ARIZONA. Tectonic setting and lithology of the Winterhaven Formation; a new Mesozoic stratigraphic unit in southeasternmost California and southwestern Arizona, by G. B. Haxel and R. M. Tosdal, U.S. Geological Survey, and J. T. Dillon, Alaska Division of Geological and Geophysical Surveys. 1985. 19 p. $1.

A sequence of distinctive Jurassic(?) supracrustal rocks in southeasternmost California and southwesternmost Arizona is named the Winterhaven Formation. This formation evidently was originally part of the upper plate of the Chocolate Mountains thrust and was subsequently placed directly over the Orocopia Schist, the lower plate of the thrust, along a newly recognized late Mesozoic low-angle normal fault. The Winterhaven Formation (and similar strata farther east in southwestern Arizona) may correlate with the lower part of the Jurassic and (or) Cretaceous McCoy Mountains Formation.

B 1643. GEORGIA. Major tectonic features and structural elements in the northwest part of the Greenville Quadrangle, Georgia, by A. E. Nelson. 1985. 22 p. $1.25.

The report is a study of major structural features, tectonic fabrics, and fold analyses of polydeformed metamorphic rocks comprising three major thrust sheets that together form a large part of the southern Appalachian mountains in northeast Georgia.

B 1645. OREGON. Reconnaissance geology and geologic hazards of the offshore Coos Bay basin, Oregon, by S. H. Clarke, Jr., M. E. Field, and C. A. Hirozawa. 1985. 41 p. $2.

The offshore Coos Bay basin underlies the continental shelf and upper slope between Heceta Bank and Coquille Bank, Oregon, and comprises a succession of middle Eocene and younger sedimentary rocks which are principally marine and are more than 5,000 meters thick. Three acoustic units have been defined within this basin on the basis of seismic-reflection and sampling data. Regional unconformities of late Pliocene to early Pleistocene, early late Miocene, and middle to late Eocene age show evidence of recurrent major episodes of deposition.

B 1647. NEVADA. Structure of pre-Cenozoic rocks in the vicinity of Yucca Mountain, Nye County, Nevada; a potential nuclear-waste disposal site, by G. D. Robinson. 1985. 22 p., 1 plate in pocket. $2.75.

This report is a preliminary investigation of the geology and hydrology of a 2,200 km^2 area surrounding a potential nuclear-waste disposal site near Yucca Mountain, Nevada. The study area is underlain by 1,200 to 3,000 m of Tertiary volcanic rocks that thin southward beneath Quaternary cover. Regional groundwater flow is generally to the south, toward discharge areas in the Amargosa Desert.

B 1659. The National Earthquake Hazards Reduction Program; scientific status, by T. C. Hanks. 1985. 40 p. $1.75.

This report sets forth the significant scientific accomplishments of the National Earthquake Hazards Reduction Program, on the basis of letters and discussions by numerous scientists from Government, academia, and industry. Stimulated by several major earthquakes in the early 1970's, the Earthquake Hazards Reduction Act of 1977 (Public Law 95-124) established the program with funding to four Federal agencies, including the U.S. Geological Survey. The objectives of this program are not only the advancement of scientific knowledge but also the application of this knowledge in effective implementation of hazard-reduction policies and emergency-preparedness plans.

CIRCULARS

Circulars present technical or non-technical information of wide popular interest in a format designed for distribution at no cost to the public. They are published to disseminate administrative information or important scientific information of an ephemeral nature.

C 0883. USGS coastal research, studies, and maps; a source of information for coastal decisionmaking, edited by J. T. Sun. 1985. 80 p. (Reprint.)

C 0946. Proceedings of the Second U.S. Geological Survey workshop on the early Mesozoic basins of the Eastern United States, edited by G. R. Robinson, Jr., and A. J. Froelich. 1985. 147 p.

The 31 extended abstracts in this volume are summaries of papers presented orally at the second USGS workshop on early Mesozoic basins of the Eastern United States, held November 14-16, 1984, which was planned as a progress report on ongoing topical studies by both USGS scientists and outside scientists funded by the USGS program. A unifying theme that emerged from the meeting was how descriptive geologic models could be linked to genetic models of geologic processes to provide new ways to evaluate existing data and test model hypotheses. Papers are grouped into five sections: (1) stratigraphy, sedimentology, tectonics, and geophysics; (2) organic geochemistry; (3) igneous geochemistry; (4) mineral resources; and (5) a topical study of the Gettysburg Basin, Pennsylvania.

1. Newark Supergroup, a revision of the Newark Group in eastern North America, by A. J. Froelich, and P. E. Olsen. p. 1-3
2. The closed-basin hypothesis and its use in facies analysis of the Newark Supergroup, by J. P. Smoot. p. 4-10
3. New thoughts on facies relationships in the Triassic Stockton and Lockatong formations, Pennsylvania and New Jersey, by C. E. Turner-Peterson, and J. P. Smoot. p. 10-17
4. Alluvial fan development in the Lower Jurassic Portland Formation, central Connecticut; implications for tectonics and climate, by P. M. LeTourneau. p. 17-26
5. Palynostratigraphy of coal-bearing sequences in early Mesozoic basins of the Eastern United States, by E. I. Robbins. p. 27-29
6. Massive mudstones in basin analysis and paleoclimatic interpretation of the Newark Supergroup, by J. P. Smoot, and P. E. Olsen. p. 29-33
7. Constraints on the formation of lacustrine microlaminated sediments, by P. E. Olsen. p. 34-35
8. Fault reactivation models for origin of the Newark Basin and studies related to Eastern U.S. seismicity, by N. M. Ratcliffe, and W. C. Burton. p. 36-45
9. Distribution and geophysical signatures of early Mesozoic rift basins beneath the U.S. Atlantic continental margin, by K. D. Klitgord, and D. R. Hutchinson. p. 45-61
10. Distribution of organic-matter-rich lacustrine rocks in the early Mesozoic Newark Supergroup, by P. E. Olsen. p. 61-64
11. Nuclear magnetic resonance studies of organic-matter-rich sedimentary rocks of some early Mesozoic basins of the Eastern United States, by P. G. Hatcher, and L. A. Romankiw. p. 65-70
12. Stable-isotope characterization of organic matter in the early Mesozoic basins of the Eastern United States, by E. C. Spiker. p. 70-73
13. Geochemical and isotopic characterization of organic matter in rocks of the Newark Supergroup, by L. M. Pratt, A. K. Vuletich, and T. A. Daws. p. 74-78
14. Organic geochemistry in sedimentary basins and ore deposits; the many roles of organic matter, by G. R. Robinson, Jr. p. 78-79
15. Early Jurassic diabase sheets of the Eastern United States; a preliminary overview, by A. J. Froelich, and David Gottfried. p. 79-86
16. Geochemical and petrologic features of some Mesozoic diabase sheets in the northern Culpeper Basin, by David Gottfried, and A. J. Froelich. p. 86-91
17. Petrology of the Boyds diabase sheet, northern Culpeper Basin, Maryland, by P. C. Ragland, and J. D. Arthur. p. 91-99
18. Geochemical reconnaissance of diabase from Vulcan Materials Quarry in the Culpeper Mesozoic basin near Manassas, Virginia, by J. A. Philpotts, David Gottfried, F. W. Brown, Z. A. Brown, W. B. Crandell, A. F. Dorrzapf, Jr., J. D. Fletcher, D. W. Golightly, L. Mei, and N. Rait. p. 99-103

19. Some compositional aspects of Mesozoic diabase sheets from the Durham area, North Carolina, by Z. A. Brown, P. J. Aruscavage, F. W. Brown, L. Mei, P. P. Hearn, and J. A. Philpotts. p. 103-106
20. Recent petrologic studies of Mesozoic igneous rocks in Connecticut, by A. R. Philpotts. p. 107-110
21. Progress on geochronology of Mesozoic diabases and basalts, by J. F. Sutter. p. 110-114
22. Pearce-Cann discriminant diagrams applied to eastern North American Mesozoic diabase, by J. A. Philpotts. p. 114-117
23. Ore deposit models and mineral resource studies in the early Mesozoic basins of the Eastern United States, by G. R. Robinson, Jr. p. 117-120
24. Modes of uranium occurrence in black mudstones in the Newark Basin, New Jersey and Pennsylvania, by C. E. Turner-Peterson, P. E. Olsen, and V. F. Nuccio. p. 120-124
25. Copper, nickel, and cobalt fractionation patterns in Mesozoic tholeiitic magmas of eastern North America; evidence for sulfide fractionation, by David Gottfried. p. 125
26. Magnetite skarn deposits of the Cornwall (Pennsylvania) type; a potential cobalt, gold, and silver resource, by G. R. Robinson, Jr. p. 126-128
27. Gravimetric character and anomalies in the Gettysburg Basin, Pennsylvania; a preliminary appraisal, by D. L. Daniels. p. 128-132
28. Aeromagnetic character and anomalies of the Gettysburg Basin vicinity, Pennsylvania; a preliminary appraisal, by J. D. Phillips. p. 133-135
29. Hydrogeochemical exploration in the early Mesozoic basins of southeastern Pennsylvania, by W. H. Ficklin, J. B. McHugh, and J. M. McNeal. p. 135-136
30. The use of sulfur isotopes as a geochemical exploration technique in the early Mesozoic basins of Pennsylvania, by J. M. McNeal. p. 136-139
31. A preliminary analysis of linear features of the Gettysburg Basin, by M. D. Krohn, O. D. Jones, and J. G. Ferrigno. p. 139-147

TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

TWI 02-E1. Application of borehole geophysics to water-resources investigations, by W. S. Keys, and L. M. MacCary. 1971. 126 p. (Reprint.) $4.75.

Periodicals

EARTHQUAKE INFORMATION BULLETIN

Single copy rate is $3.00 domestic and $3.75 foreign; annual subscription rate is $15.00 domestic and $18.75 foreign. Single copy rate for issues prior to v. 15, no. 1, is available at $2.25 domestic and $2.85 foreign from the Eastern Distribution Branch. For a complimentary copy write to Earthquake Information Bulletin, U.S. Geological Survey, 904 National Center, Reston, VA 22092.

Earthquake Information Bulletin, v. 17, no. 2, March-April 1985. p. 41-80

Topics covered in the latest issue are recent volcano monitoring in Costa Rica; reducing losses from earthquakes through personal preparedness; natural hazards activities of the National Geophysical Data Center; and the regular features, which include the Bulletin Board and the bimonthly summary of major earthquakes.

PRELIMINARY DETERMINATION OF EPICENTERS

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Annual subscription $21 domestic, $26.25 foreign.

Single copies of monthly issues may be purchased only from Eastern Distribution Branch, Text Products Section, U.S. Geological Survey, 604 South Pickett St., Alexandria, VA 22304, for $2 domestic, $2.50 foreign. Make check or money order payable to Department of the Interior—USGS.

Preliminary determination of epicenters. Monthly listing for June 1985. 22 p.

Miscellaneous and Special Books

GEOGRAPHIC NAMES INFORMATION SYSTEM (GNIS)

The Geographic Names Information System currently consists of approximately two million name entries with information about the feature name and category and its geographic location by coordinates, county, and USGS topographic maps. The name file was developed from published 7.5-minute topographic quadrangles. In areas where 7.5-minute quadrangles have not been published, 15-minute quadrangles or 1:250,000-scale maps provided basic name data.

Presently available are Alphabetical Findings Lists as noted in the following list. These lists consist of spiral-bound computer printouts of name files. Included with each State list are definitions, the Federal Information Processing Standards (FIPS) code designation, quadrangle map name in alphabetical order and also numerical sequence, and alphabetical listings with coordinates. State files are also available in microfiche.

Unedited computer printouts, specialized searches, and computer tapes may also be purchased.

GNIS, developed by Geographic Names Information Section, Branch of Geographic Names, Office of Geographic Research, National Mapping Division, is the basis for Professional Paper 1200. The first chapter, P-1200-NJ (New Jersey) was published in 1982 (revised 1983) and the others will follow. The interim materials described may meet the needs of a wide variety of potential users until all chapters have been published.

Products Available

GNIS data is available on tapes for the following States at $50 per State (plus $25.00 for each tape required—several States may be placed on one tape, depending on the size of each State data set).

State	Spiral-Bound Book
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Indiana	29
Iowa	18
Kansas	18
Kentucky	29
Maine	29
Maryland	18
Massachusetts	18
Montana	29
Nebraska	18
New Hampshire	5
New Jersey	18
New York	29

North Dakota	18
Oklahoma	18
Oregon	29
Rhode Island	5
South Dakota	18
Utah	29
Virginia	29
Washington	29
Washington, D.C.	5
West Virginia	29
Wisconsin	29
Wyoming	29
Populated places in the U.S. and territories	N/A*

Microfiche copy for these States and territories is available at $2 apiece.

*N/A means not available in spiral-bound book.

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Prepayment is required. Prices are subject to change. Unedited computer printouts are available for all other States and territories for $34 each.

Information and Specialized searches may be requested from U.S. Geological Survey, Manager GNIS, 523 National Center, Reston, Virginia 22092. (703) 860-6261

WATER-RESOURCES INVESTIGATIONS REPORTS

"Water-Resources Investigations Reports"(WRI) in this listing is applied to reports that are of an interpretative nature made available to the public outside the formal USGS publications series. WRI's are not reproduced and distributed in quantity as are formal USGS publications, but are available for public inspection at the indicated depositories.

The following WRI reports, priced as indicated, are available from the Open-File Services Section, Western Distribution Branch, U.S. Geological Survey, Box 25425, Federal Center, Denver, CO 80225 (telephone 303-236-7476). For specific ordering instructions, please refer to "Reports Available Only Through the Open-File Services Section" under "Open-File Reports." When ordering, use the WRI number preceding each item, and do not mix orders for WRI reports and open-file reports with other Geological Survey products.

WRI 83-4263. COLORADO. Calibration procedure for a daily flow model of small watersheds with snowmelt runoff in the Green River coal region of Colorado, by J. M. Norris, and R. S. Parker. 1985. 32 p. (NC, Da, M, Wb, Db; USGS, WRD, Box 25046, Mail Stop 415, Federal Ctr., Denver, CO 80225.) Microfiche $4; paper copy $5.50.

WRI 84-4172. WYOMING. Water quality of the North Platte River, east-central Wyoming, by L. R. Larson. 1985. 85 p. (NC, Da, M, Wb, Db, T, U; USGS, WRD, Room 4007, 2120 Capitol Ave., Cheyenne, WY 82003.) Microfiche $4; paper copy $14.

WRI 84-4213. WISCONSIN. Hydrogeology and ground-water quality of Lannon-Sussex area, northeastern Waukesha County, Wisconsin, by J. J. Schiller, and R. D. Cotter. 1984. Available for inspection at USGS, 1815 University Ave., Madison, WI 53705-4096.

WRI 84-4240. NEW YORK. Estimating average base flow at low-flow partial-record stations on the south shore of Long Island, New York, by H. T. Buxton. 1985. 32 p. (NC, Da, M, Wb; USGS, WRD, P.O. Box 1669, Albany, NY 12201.) Microfiche $4; paper copy $5.50.

WRI 84-4261. COLORADO. Water-quality characteristics of streams in the Piceance Creek and Yellow Creek drainage basins, northwestern Colorado, water years 1977-81, by R. L. Tobin, H. E. Stranathan, and K. J. Covay. 1985. 80 p. (NC, Da, M, Wb, Db; USGS, WRD, Box 25046, Mail Stop 415, Federal Ctr., Denver, CO 80225.) Microfiche $4; paper copy $13.25.

WRI 84-4334. NEW YORK. Hydrogeologic appraisal of five selected aquifers in Erie County, New York, by T. S. Miller, and W. W. Staubitz. 1985. 89 p. (NC, Da, M, Wb; USGS, WRD, P.O. Box 1669, Albany, NY 12201.) Microfiche $4; paper copy $14.25.

WRI 84-4347. TENNESSEE. Low flows and flow duration of Tennessee streams through 1981, by R. H. Bingham. 1985. 325 p., 1 over-size sheet. (NC, Da, M, Wb; USGS, WRD, A-413 U.S. Courthouse, Nashville, TN 37203.) Microfiche $4.75; paper copy $52.75.

WRI 84-4348. NEW YORK. Effects of increased pumpage on a fractured-bedrock aquifer system in central Orange County, New York, by Murray Garber. 1985. 27 p. (NC, Da, M, Wb; USGS, WRD, P.O. Box 1669, Albany, NY 12201.) Microfiche $4; paper copy $5.

WRI 85-4027. COLORADO. Water resources of the Cottonwood Wash watershed, Ute Mountain Ute Indian Reservation, southwestern Colorado, by A. L. Geldon. 1985. 56 p. (NC, Da, M, Wb, Db; USGS, WRD, Box 25046, Mail Stop 415, Federal Ctr., Denver, CO 80225.) Microfiche $4; paper copy $9.

WRI 85-4104. Volatile trace-element concentrations in snowmelt contributions to streams monitored by hydrologic benchmark network stations in the conterminous United States where average annual snowfall exceeds 12 inches, by R. L. Houghton, and LeAnn Schimke. 1985. 19 p. (NC, Da, M, Wb; USGS, WRD, 821 East Interstate Ave., Bismarck, ND 58501.) Microfiche $4; paper copy $3.75.

WRI 85-4166. INDIANA. Hydrologic effects of ground- and surface-water withdrawals in the Milford area, Elkhart and Kosciusko counties, Indiana, by H. A. Lindgren, J. G. Peters, D. A. Cohen, and E. J. Crompton. 1985. 75 p. (NC, Da, M, Wb.) Microfiche $4; paper copy $12.25.

WRI 85-4175. OHIO. Estimation of flood peaks from channel characteristics in Ohio, by D. K. Roth. 1985. 63 p. (NC, Da, M, Wb.) Microfiche $4; paper copy $10.25.

WRI 85-4273. NEVADA. Water-level declines in the Amargosa Valley area, Nye County, Nevada, 1962-84, by W. D. Nichols, and J. P. Akers. 1985. 7 p., 1 over-size sheet, scale 1:125,000 (1 inch = about 2 miles). (NC, Da, M, Wb, LA, SF, U; USGS, WRD, 230 Collins Road, Boise, ID 83702; and 705 North Plaza St., Room 224, Carson City, NV 89701.) Microfiche $4.75; paper copy $3.75.

OPEN-FILE REPORTS

Open-file reports include unpublished manuscript reports, maps, and other material and are made available for public consultation and use. They are a nonpermanent form of publication that may be cited in other publications as sources of information. They are not considered to be a part of the formal literature.

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Correction: In list 927, the price for Open file report 85-0507 should have been $30.

OF 79-0302. OKLAHOMA. Federal coal resource occurrence and Federal coal development potential maps of the Blocker 7.5-minute Quadrangle, Pittsburg and Latimer counties, Oklahoma, by Geological Services of Tulsa, Inc., Tulsa, Oklahoma, B. T. Brady, U.S. Geological Survey, and J. L. Querry, Bureau of Land Management. 46 p., 28 over-size sheets, scale 1:24,000 (1 inch = 2,000 feet). (NC, Da, M, T.) Microfiche $25; paper copy $66.50.

OF 79-0497. OKLAHOMA, ARKANSAS. Federal coal resource occurrence and Federal coal development potential maps of the Hackett 7.5-minute Quadrangle, Le Flore County, Oklahoma, and Sebastian County, Arkansas, by Geological Services of Tulsa, Inc., B. T. Brady, U.S. Geological Survey, and J. L. Querry, Bureau of Land Management. 27 p., 13 over-size sheets, scale 1:24,000 (1 inch = 2,000 feet). (NC, Da, M, T.) Microfiche $13.75; paper copy $31.75.

OF 83-0943. WYOMING. Ground-water data, Green River basin, Wyoming, by E. A. Zimmerman, and K. R. Collier. 511 p. (NC, Da, M, Wb; USGS, WRD, Room 4007, Federal Bldg., 2120 Capitol Ave., Cheyenne, WY.) Microfiche $4; paper copy $77.25.

OF 84-0142. NEVADA. Geohydrologic and drill-hole data for test wells UE-29a#1 and UE-29a#2, Fortymile Canyon, Nevada Test Site, by R. K. Waddell, Jr. 25 p. (NC, Da, M, Wb, LA, SF, Db, Wa, U; USGS, WRD, Bldg. 53, Room H2115, Denver Federal Ctr., Lakewood, CO.) Microfiche $4; paper copy $4.50.

OF 84-0730. NEW JERSEY. Hydrogeologic framework of the New Jersey coastal plain, by O. S. Zapecza. 61 p., 24 over-size sheets, scale 1:250,000 (1 inch = about 4 miles). (NC, Da, M, Wb; USGS, WRD, Room 409, Federal Bldg., 402 East State St., Trenton, NJ 08608; USGS, Water Information Group, Special Reports Unit, Reports Section, Room 5B410, National Ctr., 12201 Sunrise Valley Drive, Reston, VA 22092; USGS, Office of Sci. Publications, Geol. Div., 919 National Ctr., Reston, VA 22092.) Microfiche $22; paper copy $89.

OF 84-0738. Studies of geology and hydrology in the Basin and Range Province, Southwestern United States, for isolation of high-level radioactive waste; basis of characterization and evaluation, edited by M. S. Bedinger, K. A. Sargent, and W. H. Langer. 189 p., 1 over-size sheet, scale 1:2,500,000 (1 inch = about 40 miles). (NC, Da, M, Wb, U, LA, SF, T, Db.) Microfiche $4.75; paper copy $33.50.

Regional characterization and guidelines for evaluation, by M. S. Bedinger, K. A. Sargent, F. B. Sherman, W. H. Langer, and B. T. Brady. p. 18-57

Hydraulic properties of rocks in the Basin and Range Province, by M. S. Bedinger, W. H. Langer, and J. E. Reed. p. 58-75

Mathematical model for simulating ground-water and heat flow, by J. E. Reed. p. 76-82

Climatic change, geomorphic processes, and tectonism, by M. S. Bedinger. p. 83-116

OF 84-0739. TEXAS. Studies of geology and hydrology in the Basin and Range Province, Southwestern United States, for isolation of high-level radioactive waste; characterization of the Trans-Pecos region, Texas, edited by M. S. Bedinger, K. A. Sargent, and W. H. Langer. 122 p., 9 over-size sheets, scale 1:500,000 (1 inch = about 8 miles). (NC, Da, M, Wb, T.) Microfiche $10.75; paper copy $35.

Introduction, by M. S. Bedinger, K. A. Sargent, and C. D. Henry. p. 3-9

Geology, by C. D. Henry, and J. G. Price. p. 10-55

Potential host media for radioactive waste, by K. A. Sargent. p. 56-64

Quaternary tectonism, by C. D. Henry, J. G. Price, and K. A. Sargent. p. 65-79

Ground-water hydrology, by M. S. Bedinger, W. H. Langer, and J. E. Reed. p. 80-102

Mineral and energy resources, by J. G. Price, C. D. Henry, and B. T. Brady. p. 103-122

OF 84-0740. NEW MEXICO, TEXAS. Studies of geology and hydrology in the Basin and Range Province, Southwestern United States, for isolation of high-level radioactive waste; characterization of the Rio Grande region, New Mexico and Texas, edited by M. S. Bedinger, K. A. Sargent, and W. H. Langer. 148 p., 8 over-size sheets, scale 1:500,000 (1 inch = about 8 miles). (NC, Da, M, Wb, T, Db.) Microfiche $10; paper copy $44.

Introduction, by M. S. Bedinger, K. A. Sargent, and W. D. Johnson, Jr. p. 4-15

Geology, by W. D. Johnson, Jr., J. W. Hawley, W. J. Stone, F. E. Kottlowski, C. D. Henry, and J. G. Price. p. 16-71

Potential host media for radioactive waste, by K. A. Sargent. p. 72-81

Quaternary tectonism, by K. A. Sargent, J. W. Hawley, C. D. Henry, W. J. Stone, and F. E. Kottlowski. p. 82-93

Ground-water hydrology, by M. S. Bedinger, W. H. Langer, and J. E. Reed. p. 94-117

Mineral and energy resources, by B. T. Brady. p. 118-148

OF 84-0741. ARIZONA. Studies of geology and hydrology in the Basin and Range Province, Southwestern United States, for isolation of high-level radioactive waste; characterization of the Sonoran region, Arizona, edited by M. S. Bedinger, K. A. Sargent, and W. H. Langer. 141 p., 4 over-size sheets, scale 1:500,000 (1 inch = about 8 miles). (NC, Da, M, Wb, LA, SF.) Microfiche $7.75; paper copy $44.25.

Introduction, by M. S. Bedinger, K. A. Sargent, and R. B. Scarborough. p. 4-12

Geology, by R. B. Scarborough. p. 13-81

Potential host media for radioactive waste, by K. A. Sargent. p. 82-89

Quaternary tectonism, by K. A. Sargent, and R. B. Scarborough. p. 90-97

Ground-water hydrology, by M. S. Bedinger, W. H. Langer, and J. E. Reed. p. 98-114

Mineral and energy resources, by B. T. Brady, and R. B. Scarborough. p. 115-141

OF 84-0742. CALIFORNIA. Studies of geology and hydrology in the Basin and Range Province, Southwestern United States, for isolation of high-level radioactive waste; characterization of the Sonoran region, California, edited by M. S. Bedinger, K. A. Sargent, and W. H. Langer. 103 p., 6 over-size sheets, scale 1:500,000 (1 inch = about 8 miles). (NC, Da, M, Wb, LA, SF.) Microfiche $8.50; paper copy $32.75.

Introduction, by M. S. Bedinger, K. A. Sargent, and G. I. Smith. p. 3-9

Geology, by G. I. Smith, and Robert Streitz. p. 10-50

Potential host media for radioactive waste, by K. A. Sargent. p. 51-58

Quaternary tectonism, by K. A. Sargent, and G. I. Smith. p. 59-66

Ground-water hydrology, by M. S. Bedinger, W. H. Langer, and J. E. Reed. p. 67-85

Mineral and energy resources, by B. T. Brady. p. 86-103

OF 84-0743. NEVADA, CALIFORNIA. Studies of geology and hydrology in the Basin and Range Province, Southwestern United States, for isolation of high-level radioactive waste; characterization of the Death Valley region, Nevada and California, edited by M. S. Bedinger, K. A. Sargent, and W. H. Langer. 173 p., 7 over-size sheets, scale 1:500,000 (1 inch = about 8 miles). (NC, Da, M, Wb, LA, SF.) Microfiche $9.25; paper copy $54.

Introduction, by M. S. Bedinger, and K. A. Sargent. p. 4-12

Geology, by T. L. Grose, and G. I. Smith. p. 13-63

Potential host media for radioactive waste, by K. A. Sargent. p. 64-78

Quaternary tectonism, by K. A. Sargent, and T. L. Grose. p. 79-92

Ground-water hydrology, by M. S. Bedinger, W. H. Langer, and J. E. Reed. p. 93-117

Mineral and energy resources, by B. T. Brady. p. 118-173

OF 84-0744. UTAH, NEVADA. Studies of geology and hydrology in the Basin and Range Province, Southwestern United States, for isolation of high-level radioactive waste; characterization of the Bonneville region, Utah and Nevada, edited by M. S. Bedinger, K. A. Sargent, and W. H. Langer. 139 p., 6 over-size sheets, scale 1:500,000 (1 inch = about 8 miles). (NC, Da, M, Wb, U, LA, SF.) Microfiche $8.50; paper copy $36.75.

Introduction, by M. S. Bedinger, and K. A. Sargent. p. 4-12

Geology, by K. A. Sargent, and D. R. Mabey. p. 13-52

Potential host media for radioactive waste, by K. A. Sargent. p. 53-60

Quaternary tectonism, by K. A. Sargent, and D. R. Mabey. p. 61-68

Ground-water hydrology, by M. S. Bedinger, J. E. Reed, and W. H. Langer. p. 69-102

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OF 84-0745. Studies of geology and hydrology in the Basin and Range Province, Southwestern United States, for isolation of high-level radioactive waste; evaluation of the regions, edited by M. S. Bedinger, K. A. Sargent, and W. H. Langer. 195 p., 2 over-size sheets. (NC, Da, M, Wb, U, LA, SF, T, Db.) Microfiche $5.50; paper copy $38.25.

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OF 85-0098. Proceedings of the advanced seminar on sedimentation, August 15-19, 1983, Denver, Colorado, edited by G. D. Glysson. 69 p. (NC, Da, M, Wb.) Microfiche $4; paper copy $11.50.

Modeling water-discharge and sediment-concentration hydrographs at surface mine sites in Pennsylvania, by L. A. Reed. p. 3-5

Preliminary investigation of the physical basis of soil erosion parameters in the Precipitation-Runoff Modeling System (PRMS), by W. P. Carey, and Andrew Simon. p. 6-7

Reducing sediment sampling frequency at streamflow gaging station Rio Grande at Otowi Bridge near San Ildefonso, New Mexico, by D. H. Marshall. p. 8-10

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OF 85-0525. COLORADO. Geologic map index of the Craig 1° by 1/2° Quadrangle, Moffat and Routt counties, Colorado, compiled by E. A. Johnson, and M. E. Brownfield. 1 over-size sheet, scale 1:100,000 (1 inch = about 1.6 miles). (NC, Da, M, U, Db.) Microfiche $1.50; paper copy $5.25.

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OF 85-0600. Digital marine gravity data collected in the southern Chukchi Sea in 1976, by S. D. May, B. D. Ruppel, and Arthur Grantz. 4 p. (NC, Da, M, A, S, SF, LA; USGS, Room 207, O'Neill Bldg., Univ. Alaska, P.O. Box 80586, Fairbanks, AK 99708; Alaska Div. Geol. and Geophys. Surv., 794 University Ave. (Basement), Fairbanks, AK 99701.) (Copies of the data are available through the National Geophysical Data Ctr., NOAA/EDIS/NGDC Code E64, 325 Broadway, Boulder, CO 80303; telephone 303-497-6338.) Microfiche $4; paper copy $1.50.

OF 85-0601. Digital marine gravity data collected in the Beaufort and Chukchi Seas in 1977, by S. D. May, B. D. Ruppel, and Arthur Grantz. 4 p. (NC, Da, M, A, S, SF, LA; USGS, Room 207, O'Neill Bldg., Univ. Alaska, P.O. Box 80586, Fairbanks, AK 99708; Alaska Div. Geol. and Geophys. Surv., 794 University Ave. (Basement), Fairbanks, AK 99701.) (Copies of the data are available through the National Geophysical Data Ctr., NOAA/EDIS/NGDC Code E64, 325 Broadway, Boulder, CO 80303; telephone 303-497-6338.) Microfiche $4; paper copy $1.50.

OF 85-0602. Digital marine gravity data collected in the Chukchi Sea in 1978, by S. D. May, and Arthur Grantz. 4 p. (NC, Da, M, A, S, SF, LA; USGS, Room 207, O'Neill Bldg., Univ. Alaska, P.O. Box 80586, Fairbanks, AK 99708; Alaska Div. Geol. and Geophys. Surv., 794 University Ave. (Basement), Fairbanks, AK 99701.) (Copies of the data are available through the National Geophysical Data Ctr., NOAA/EDIS/NGDC Code E64, 325 Broadway, Boulder, CO 80303; telephone 303-497-6338.) Microfiche $4; paper copy $1.50.

OF 85-0603. Digital marine gravity data collected in the southern Chukchi Sea in 1980, by S. D. May, and Arthur Grantz. 4 p. (NC, Da, M, A, S, SF, LA; USGS, Room 207, O'Neill Bldg., Univ. Alaska, P.O. Box 80586, Fairbanks, AK 99708; Alaska Div. Geol. and Geophys. Surv., 794 University Ave. (Basement), Fairbanks, AK 99701.) (Copies of the data are available through the National Geophysical Data Ctr., NOAA/EDIS/NGDC Code E64, 325 Broadway, Boulder, CO 80303; telephone 303-497-6338.) Microfiche $4; paper copy $1.50.

OF 85-0610. Guidelines for reviewers of geological manuscripts, by H. E. Malde. 16 p. (NC, Da, M.) Microfiche $4; paper copy $3.50.

Foreword, by W. R. Hansen. p. iii

Checklist for reviewing geologic maps, by J. C. Reed, Jr. p. 10-12

OF 85-0611. IDAHO. Geology of the Wallowa-Seven Devils volcanic (island) arc terrane between the Snake and Salmon rivers near Lucile, Idaho; Part I, Stratigraphy, structure, and metamorphism, by P. J. LeAnderson, and Scott Richey. 30 p., 1 over-size sheet, scale 1:24,000 (1 inch = 2,000 feet). (NC, Da, M, U, SF, S; Idaho Bur. of Mines and Geol., Univ. of Idaho Campus, Moscow, ID 83843.) Microfiche $4.75; paper copy $7.

OF 85-0615. Auxiliary programs for support of seismic hazard analysis, by S. L. Hanson, and D. M. Perkins. 115 p. (NC, Da, M.) Microfiche $4; paper copy $17.75.

OF 85-0617. Reconnaissance geology of the Al Ba'ayith Quadrangle, sheet 26/41D, Kingdom of Saudi Arabia, by P. L. Williams and F. W. Simonds, *with a* Geographic map, by J. D. Turner. 38 p., 2 over-size sheets, scale 1:100,000 (1 inch = about 1.6 miles). (NC, Da, M.) Microfiche $5.50; paper copy $12.50.

OF 85-0621. MONTANA, WYOMING. Summary of results of the coal resource occurrence and coal development potential mapping program in part of the Powder River basin, Montana and Wyoming, by V. A. Trent. 49 p., 1 over-size sheet, scale 1:1,000,000 (1 inch = about 16 miles). (NC, Da, M, Db, U, S; Montana Bur. of Mines and Geol., Montana Coll. of Mineral Sci. and Technol., Butte, MT 59701; Geol. Surv. of Wyoming, P.O. Box 3008, University Station, Laramie, WY 82071.) Microfiche $4.75; paper copy $13.50.

OF 85-0622. OREGON. Teleseismic P-wave traveltime residuals across the Cascade Range in southern Oregon, by P. A. Berge. 104 p. (NC, Da, M, S, SF, LA; Oregon Dep. of Geol. and Mineral Industries, 910 State Office Bldg., Portland, OR 97201.) Microfiche $4; paper copy $15.75.

OF 85-0625. NEVADA. Aeromagnetic map of the Monte Cristo Range, Nevada. 1 over-size sheet, scale 1:62,500 (1 inch = about 1 mile). (NC, Da, M, Db, U, SF, LA; Nevada Bur. of Mines and Geol., Univ. Nevada, Reno, NV 89557.) Microfiche $1.50; paper copy $3.25.

OF 85-0638. UTAH. Water resources of the Park City area, Utah, with emphasis on ground water, by W. F. Holmes, K. R. Thompson, and Michael Enright. 81 p., 2 over-size sheets. (NC, Da, M, Wb; USGS, WRD, 1745 West 1700 South, Salt Lake City, UT 84104.) Microfiche $5.50; paper copy $16.

OF 85-0640. Operation of hydrologic data collection stations by the U.S. Geological Survey in 1985, by Alberto Condes de la Torre. 37 p. (NC, Da, M, Wb.) Microfiche $4; paper copy $6.50.

OF 85-0660-A. National Earthquake Information Center waveform catalog, January 1985, by M. D. Zirbes, J. M. Lishner, and B. J. Moon. 185 p. (NC, Da, M.) Microfiche $4; paper copy $29.

OF 85-0662. Stable-isotope study of volcanogenic and sedimentary-manganese deposits, by Hsue-Wen Yeh, J. R. Hein, and R. A. Koski. 16 p. (NC, Da, M, SF, LA, U; California Dep. of Conservation, Div. of Mines and Geol., 1516 9th St., 43rd Floor, Sacramento, CA 95814; 367 Civic Dr., Pleasant Hill, CA 94523; and State Office Bldg., 107 South Broadway, Room 1065, Los Angeles, CA 90012; Nevada Bur. of Mines and Geol., Univ. Nevada, Reno, NV 89557; Arizona Bur. of Geol. and Mineral Technol., 845 North Park Ave., Tucson, AZ 85719.) Microfiche $4; paper copy $2.50.

OF 85-0664. CALIFORNIA. Crustal tilt in Long Valley, California, by A. G. Sylvester. 50 p. (NC, Da, M, SF, LA; California Dep. of Conservation, Div. of Mines and Geol., 1516 9th St., 43rd Floor, Sacramento, CA 95814; 367 Civic Dr., Pleasant Hill, CA 94523; and State Office Bldg., 107 South Broadway, Room 1065, Los Angeles, CA 90012.) Microfiche $4; paper copy $8.

Analysis of apparent tilt by thermoelastically-induced bedrock motion, by Jim Hollis. p. 46-50

OF 85-0666. Scattered waves on the wall of a fluid-filled borehole from incident plane waves, by M. W. Lee. 25 p. (NC, Da, M.) Microfiche $4; paper copy $4.25.

OF 85-0718. Chemical compositions and critical evaluation of microprobe standards available in the Reston Microprobe Facility, by J. S. Huebner, and M. E. Woodruff. 234 p. (NC.) Microfiche $4; paper copy $35.25.

OF 85-0719. Preliminary response activities and recommendations of the USGS Landslide Hazard Research Team to the Puerto Rico landslide disaster of October 7, 1985, by R. H. Campbell, D. G. Herd, and R. M. Alonso. 13 p. (NC.) Microfiche $4; paper copy $2.25.

OF 85-0722. NEVADA. Relationship between disseminated gold deposits and a regional paleothermal anomaly in Nevada, by C. G. Cunningham. 20 p. (NC, Da, M, Db, U, SF, LA; Nevada Bur. of Mines and Geol., Univ. Nevada, Reno, NV 89557.) Microfiche $4; paper copy $3.25.

OF 85-0726. Isotopic studies of postorogenic granites from the northeastern Arabian Shield, Kingdom of Saudi Arabia, by J. S. Stuckless, C. E. Hedge, D. B. Wenner, and I. T. Nkomo. 40 p. (NC, Da, M.) Microfiche $4; paper copy $6.50.

OF 85-0727. Ages and strontium initial ratios of plutonic rocks in a transect of the Arabian Shield, by R. J. Fleck, and D. G. Hadley. 43 p. (NC, Da, M.) Microfiche $4; paper copy $7.25.

Reports Available Only Through Certain Geological Survey Field Offices

For information on availability and price of these reports, write to the address indicated by a dagger (†) in the listing for the report.

OF 81-0345. Flood of September 16, 1975 in the Añasco area, Puerto Rico, by K. C. Johnson, and Vicente Quiñones-Aponte. 17 p. (NC; USGS, WRD, Bldg. 652, Ft. Buchanan, PR 00936.) †USGS, WRD, G.P.O. Box 4424, San Juan, PR 00936. (Water-Resources Investigations.)

OF 81-0346. Floods of October 9, 1970 and September 16, 1975 at Jayuya, Puerto Rico, by K. C. Johnson, and R. A. Carrasquillo. (NC; USGS, WRD, Bldg. 652, Ft. Buchanan, PR 00936.) †USGS, WRD, G.P.O. Box 4424, San Juan, PR 00936. (Water-Resources Investigations.)

OF 81-0550. MISSISSIPPI. Characterization of aquifers designated as potential drinking-water sources in Mississippi, by L. A. Gandl. †USGS, WRD, Suite 710, Federal Bldg., 100 West Capitol St., Jackson, MS 39269. (Water-Resources Investigations.)

OF 81-0906. ARIZONA. Annual summary of ground-water conditions in Arizona; spring 1979 to spring 1980. 2 p. (NC; Arizona Dep. of Water Resources, 99 East Virginia, Phoenix, AZ; USGS, WRD, 2255 North Gemini Drive, Flagstaff, AZ 86001; Room 5-A Federal Bldg., 301 West Congress St., Tucson, AZ 85701; Suite 1880, Valley Center, Phoenix, AZ 85073; and 1940 South 3rd Ave., Yuma, AZ 85364.) †USGS, WRD, Room 5-A Federal Bldg., 301 West Congress St., Tucson, AZ 85701. (Water-Resources Investigations.)

OF 81-1123. MISSISSIPPI. Water-level map of the Mississippi Delta alluvium in northwestern Mississippi, April 1981, by Daphne Darden. †USGS, WRD, Suite 710, Federal Bldg., 100 West Capitol St., Jackson, MS 39269. (Water-Resources Investigations.)

OF 84-0428. ARIZONA. Annual summary of ground-water conditions in Arizona, spring 1982 to spring 1983. 2 sheets. (NC, Da, M, Wb; USGS, WRD, Room 5-A Federal Bldg., 301 West Congress St., Tucson, AZ 85701; Suite 1880, Valley Ctr., Phoenix, AZ 85073; 2255 North Gemini Dr., Flagstaff, AZ 86001; and 1940 South 3rd Ave., Yuma, AZ 85364.) †USGS, WRD, Federal Bldg., FB-44, 301 West Congress St., Tucson, AZ 85701. (Water-Resources Investigations.)

MAPS

GEOLOGIC QUADRANGLE MAPS

Multicolor geologic maps on topographic bases in 7 1/2- or 15-minute quadrangle units; scales mainly 1:24,000 or 1:62,500; show bedrock, surficial, or engineering geology. Maps are accompanied by brief texts and some maps by structure and columnar sections also.

GQ-1587. NEVADA, CALIFORNIA. Geologic map of the Magruder Mountain Quadrangle, Esmeralda County, Nevada, and Inyo County, California, by E. H. McKee. 1985. Lat 37°15′ to 37°30′, long 117°30′ to 117°45′. Scale 1:62,500 (1 inch = about 1 mile). Sheet 28 by 32 inches. $3.60.

GEOPHYSICAL INVESTIGATIONS MAPS

Maps on topographic or planimetric bases; various scales; show results of surveys using geophysical techniques, such as gravity, magnetic, seismic, or radioactivity, which reflect subsurface structures that are of economic or geologic significance. Many maps are correlated with the geology.

GP-0957. NORTH CAROLINA. Aeromagnetic map of North Carolina, by Isidore Zietz, F. E. Riggle, and F. P. Gilbert. 1984. Lat about 34° to about 36°, long about 76° to about 84°. Scale 1:500,000 (1 inch = about 8 miles). Sheet 28 by 66 inches. (Available unfolded only.) $2.40.

GP-0965. MISSOURI. Magnetic anomaly map of Missouri, by Isidore Zietz, K. R. Bond, and F. E. Riggle. 1985. Lat 36° to about 40°, long about 90° to about 95°. Scale 1:500,000 (1 inch = about 8 miles). Sheet 43 by 47 inches. (Available unfolded only.) $2.40.

MISCELLANEOUS INVESTIGATIONS SERIES MAPS

Maps on planimetric or topographic bases; regular and irregular areas; various scales; a wide variety of format and subject matter. The series also includes 7 1/2-minute quadrangle photogeologic maps on planimetric bases which show geology as interpreted from aerial photographs. Series also includes maps of Mars and the Moon.

I-0427. CALIFORNIA. Geologic map of the Ord Mountains Quadrangle, San Bernardino County, California, by T. W. Dibblee, Jr. 1964. Lat 34°30′ to 34°45′, long 116°45′ to 117°. Scale 1:62,500 (1 inch = about 1 mile). Sheet 26 by 33 inches. (Accompanied by 6-page text.) (Reprint.) $3.10.

I-1033-L. UTAH. Surficial geologic map of the Kaiparowits coal-basin area, Utah, by V. S. Williams. 1985. Lat 37° to 38°, long 111° to 112°. Scale 1:125,000 (1 inch = about 4 miles). Sheet 41 by 58 inches. $3.60.

I-1251-F. NORTH CAROLINA, SOUTH CAROLINA. Mineral production maps of the Charlotte 1° by 2° Quadrangle, North Carolina and South Carolina, by J. H. DeYoung, Jr., M. P. Lee, and J. P. Dorian. 1985. Three sheets. Sheet 1, lat 35° to 36°, long 80° to 82°. Scale 1:375,000 (1 inch = about 6 miles). Sheet 1, 33 by 42 inches; sheet 2, 32 by 38 inches; sheet 3, 33 by 38 inches. (Accompanied by 8-page text.) $9.30.

Cumulative mineral production and production per unit area from the 31 counties in the quadrangle are shown on 27 maps for individual mineral commodities. The discounted dollar values of production of these commodities are totalled and shown on six maps for commodity categories (construction materials, fuels, metals—excluding gold and silver, nonmetallic minerals, precious metals, and all commodities). The information covers the period from about 1804 to 1978 and is based principally on U.S. Bureau of Mines data.

I-1360-A. MICHIGAN, WISCONSIN. Mineral-resources map of the Iron River 1° by 2° Quadrangle, Michigan and Wisconsin, by W. F. Cannon. 1985. Lat 46° to 47°, long 88° to 90°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 33 by 39 inches. $3.10.

This map shows zones of known mineral resources and of areas judged to have varying degrees of favorability for undiscovered mineral deposits. The map area contains known iron and copper deposits. Many parts of the area have potential for undiscovered deposits including copper, uranium, nickel, zinc, and silver.

I-1580. MASSACHUSETTS. Geologic map of Nantucket and nearby islands, Massachusetts, by R. N. Oldale. 1985. Lat 41°12′30″ to 41°27′30″, long 69°57′30″ to 70°20′. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 35 by 51 inches. $3.10.

Nantucket and nearby islands are composed mostly of upper Wisconsinan stratified drift and marine deposits of Holocene age. Marine deposits of Sangamonian age and drift of Illinoian(?) age are glaciotectonically displaced and crop out at Sankaty Head on Nantucket Island. At depth, the Pleistocene sequence overlies unconsolidated deposits of Tertiary and Cretaceous age that in turn overlie basalt of Triassic or Jurassic age. Rapid marine erosion presents the most serious geologic hazard to the islands.

I-1613. WASHINGTON. Seismotectonic map of the Puget Sound region, Washington, by H. D. Gower, J. C. Yount, and R. S. Crosson. 1985. Lat 46°37′30″ to 49°, long 121° to 123°30′. Scale 1:250,000 (1 inch = about 4 miles). Sheet 42 by 58 inches. (Accompanied by 15-page text.) $2.40.

I-1617. ARIZONA. Geologic map of the Safford Quadrangle, Graham County, Arizona, by B. B. Houser, D. H. Richter, and M. Shafiqullah. 1985. Lat 32°45′ to 33°, long 109°30′ to 109°45′. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 34 by 46 inches. $3.10.

MISCELLANEOUS FIELD STUDIES MAPS

Multicolor or black and white maps on topographic or planimetric bases; quadrangle or irregular areas; various scales. Pre-1971 maps show bedrock geology in relation to specific mining or mineral-deposit problems; post-1971 maps are preliminary black and white maps on various subjects such as environmental studies or Wilderness mineral investigations.

MF-1152. UTAH. Geologic map of the Sawtooth Peak Quadrangle, Beaver County, Utah, by L. F. Hintze, and M. G. Best. 1980. Lat 38°22'30" to 38°30', long 113°45' to 113°52'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 36 by 36 inches. (Reprint.) $1.50.

MF-1153. UTAH. Preliminary geologic map of the Halfway Summit Quadrangle, Millard and Beaver counties, Utah, by M. G. Best, and L. F. Hintze. 1980. Lat 38°30' to 38°37'30", long 113°45' to 113°52'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 36 by 36 inches. (Reprint.) $1.50.

MF-1347-C. GEORGIA. Maps showing mines, prospects, and mineral sites in the Tray Mountain Roadless Area and vicinity, northern Georgia, by M. L. Chatman, U.S. Bureau of Mines. 1985. Lat 34°45' to about 34°57'30", long about 83°32'30" to 83°45'. Scale 1:30,000 (1 inch = 2,500 feet). Sheet 43 by 54 inches. $1.50.

MF-1395-E. CALIFORNIA. Map showing distribution of anomalous concentrations of elements in water, Domeland Wilderness and contiguous roadless areas, Kern and Tulare counties, California, by W. R. Miller, and J. B. McHugh. 1985. Lat 35°40' to 36°05', long 118°05' to 118°25'. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 39 by 51 inches. $1.50.

MF-1524. CONNECTICUT. Surficial geologic map of the Botsford Quadrangle, Connecticut, by J. R. Stone, and E. H. London. 1985. Lat 41°15' to 41°22'30", long 73°15' to 73°22'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 33 by 38 inches. $1.50.

MF-1588-G. COLORADO. Geochemical maps showing the distribution and abundance of selected elements in heavy-mineral concentrates of stream sediments from Vasquez Peak Wilderness Study Area and the Williams Fork and St. Louis Peak Roadless Areas, Clear Creek, Grand, and Summit counties, Colorado, by H. N. Barton. 1985. Two sheets. Lat 39°38' to 39°57', long 105°45' to 106°08'. Scale 1:100,000 (1 inch = about 1.6 miles). Sheet 1, 35 by 54 inches; sheet 2, 30 by 37 inches. $3.

MF-1609-B. VERMONT. Geochemical survey of the Lye Brook Wilderness, Bennington and Windham counties, Vermont, by R. A. Ayuso, and G. W. Day. 1985. Lat 43° to about 43°07'30", long about 72°57'30" to 73°07'30". Scale 1:48,000 (1 inch = 4,000 feet). Sheet 38 by 56 inches. $1.50.

MF-1619-A. IDAHO, WYOMING. Mineral resource potential map of the West and East Palisades Roadless Areas, Idaho and Wyoming, by S. S. Oriel, J. C. Antweiler, and D. W. Moore, U.S. Geological Survey, and J. R. Benham, U.S. Bureau of Mines, *with contributions by* D. R. Mabey, U.S. Geological Survey. 1985. Two sheets. Sheet 1, lat 43°07'30" to 43°37'30", long 110°45' to 111°22'30". Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 1, 40 by 53 inches; sheet 2, 24 by 34 inches. (Accompanied by 13-page text.) $3.90.

MF-1619-B. IDAHO, WYOMING. Geologic map of the West and East Palisades Roadless Areas, Idaho and Wyoming, by S. S. Oriel, and D. W. Moore. 1985. Two sheets. Sheet 1, lat 43°07'30" to 43°37'30", long 110°45' to 111°22'30"; sheet 2, lat about 43°15' to about 43°30', long about 111° to about 111°15'. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 1, 40 by 53 inches; sheet 2, 25 by 36 inches. $3.

MF-1717. UTAH. Geologic map of the Agency Draw NW Quadrangle, Uintah County, Utah, by W. B. Cashion. 1984. Lat 39°37'30" to 39°45', long 109°37'30" to 109°45'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 32 by 32 inches. (Reprint.) $1.50.

MF-1728. Free-air gravity anomaly map of the Bering Sea, by J. R. Childs, H. W. Magistrale, and A. K. Cooper. 1985. Lat 50°N to 66°N, long 158°W to 158°E. Scale 1:2,500,000 (1 inch = about 40 miles). Sheet 40 by 58 inches. $1.50.

MF-1756-A. UTAH. Mineral resource potential map of the Mt. Ellen-Blue Hills Wilderness Study Area and Bull Mountain Study Area, Garfield and Wayne counties, Utah, by R. F. Dubiel, C. S. Bromfield, S. E. Church, W. M. Kemp, M. J. Larson, and Fred Peterson, U.S. Geological Survey, and D. D. Gese, U.S. Bureau of Mines. 1985. Lat about 38°20', long 110°35' to about 111°. Scale 1:50,000 (1 inch = about 4,200 feet). Sheet 31 by 41 inches. (Accompanied by 8-page text.) $1.50.

MF-1773. IDAHO. Complete Bouguer gravity anomaly map of Idaho, by Viki Bankey, Michael Webring, D. R. Mabey, and M. D. Kleinkopf, U.S. Geological Survey, and E. H. Bennett, Idaho Geological Survey. 1985. Lat 42° to 49°, long about 111° to about 117°. Scale 1:500,000 (1 inch = about 8 miles). Sheet 41 by 65 inches. (Reprint.) $2.40.

MF-1781. NEW JERSEY. Attitude, movement history, and structure of cataclastic rocks of the Flemington Fault; results of core drilling near Oldwick, New Jersey, by W. C. Burton, and N. M. Ratcliffe. 1985. Sheet 35 by 42 inches. $1.50.

MF-1797. CALIFORNIA. Geologic map of the Penn Mine, Calaveras County, California, by J. A. Peterson. 1985. Two sheets. Sheet 1, about 38°14', long about 120°52'30"; sheet 2, long about 120°52'30". Scale 1:1,200 (1 inch = 100 feet). Sheet 1, 45 by 46 inches; sheet 2, 27 by 34 inches. $3.

MF-1802. CALIFORNIA. Contour map showing minimum depth to ground water, upper Santa Ana River valley, California, 1973-1979, by S. E. Carson, and J. C. Matti. 1985. Two sheets. Sheet 1, lat about 34°, long 117° to about 117°22'30"; sheet 2, lat 33°52'30" to about 34°07'30", long about 117°22'30" to about 117°45'. Scale 1:48,000 (1 inch = 4,000 feet). Sheet 1, 42 by 56 inches; sheet 2, 38 by 49 inches. (Accompanied by 22-page text.) $3.

MF-1810-A. CALIFORNIA. Mineral resource potential map of the Tunnel Ridge Wilderness Study Area, Klamath Mountains, California, by G. L. Kennedy and M. F. Diggles, U.S. Geological Survey, and R. S. Gaps, U.S. Bureau of Mines. 1985. Lat about 40°45' to about 40°50', long about 123° to 123°05'. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 25 by 34 inches. (Accompanied by 7-page text.) $1.50.

SPECIAL GEOLOGIC MAPS

Tectonic map of North America, compiled by P. B. King. 1969. Two sheets. Scale 1:5,000,000 (1 inch = about 80 miles). Sheet 1, 39 by 63 inches; sheet 2, 39 by 63 inches. (Available unfolded only.) (Reprint.) $9.90 per set.

OUTSIDE PUBLICATIONS

ARTICLES AND REPORTS

Articles by Geological Survey personnel in non-Geological Survey publications that came to our attention in January 1986. Non-Geological Survey personnel who share authorship in articles with U.S. Geological Survey personnel are indicated by an asterisk (*) immediately following the name. **These publications are not available from the U.S. Geological Survey.**

OP-1. L. M. Anovitz*, A. H. Treiman*, E. J. Essene*, B. S. Hemingway, E. F. Westrum, Jr.*, V. J. Wall*, Ramón Burriel* and S. R. Bohlen*. The heat-capacity of ilmenite and phase equilibria in the system Fe-Ti-O. Geochimica et Cosmochimica Acta, v. 49, no. 10, October 1985. p. 2027-2040.

OP-2. B. F. Atwater, D. P. Adam, J. P. Bradbury, R. M. Forester, R. K. Mark, W. R. Lettis, G. R. Fisher, K. W. Gobalet* and S. W. Robinson. CALIFORNIA. A fan dam for Tulare Lake, California, and implications for the Wisconsin glacial history of the Sierra Nevada. Geological Society of America Bulletin, v. 97, no. 1, January 1986. p. 97-109.

OP-3. W. R. Aucott and G. K. Speiran. SOUTH CAROLINA. Ground-water flow in the Coastal Plain aquifers of South Carolina. Ground Water, v. 23, no. 6, December 1985. p. 736-745.

OP-4. C. R. Bacon. OREGON. Eruptive history of Mount Mazama and Crater Lake Caldera, Cascade Range, USA. Journal of Volcanology and Geothermal Research, v. 18, no. 1-4, October 1983. p. 57-115.

OP-5. J. L. Bada*, J. R. Cronin*, Ming-Shan Ho*, K. A. Kvenvolden, J. G. Lawless*, S. L. Miller*, J. Oro*, Spencer Steinberg*, M. H. Engel* and Bartholomew Nagy*. On the reported optical activity of amino acids in the Murchison Meteorite. Nature (London), v. 301, no. 5900, February 10, 1983. p. 494-497.

OP-6. P. W. Barnes, Erk Reimnitz and D. M. Rearic. ALASKA. Ice gouge characteristics related to sea-ice zonation, Beaufort Sea, Alaska. Technical Memorandum - Associate Committee on Geotechnical Research (Ottawa), 136, April 1985. p. 185-219.

OP-7. P. W. Barnes, C. R. Ross and Erk Reimnitz. Correlation between an ice ridge and sea bed geologic boundary. Technical Memorandum - Associate Committee on Geotechnical Research (Ottawa), 136, April 1985. p. 169-184.

OP-8. Enriqueta Barrera*, Gerta Keller and S. M. Savin*. Evolution of the Miocene ocean in the eastern North Pacific as inferred from oxygen and carbon isotopic ratios of foraminifera. Memoir - Geological Society of America, v. 163, 1985. p. 83-102.

OP-9. J. A. Barron, Gerta Keller* and D. A. Dunn*. A multiple microfossil biochronology for the Miocene. Memoir - Geological Society of America, v. 163, 1985. p. 21-36.

OP-10. M. S. Bedinger. Geohydrology and development of ground-water resources in the Basin and Range Province, United States of America. IAHS-AISH Publication, v. 154, no. 2, 1985. p. 187-196.

OP-11. P. A. Berge, P. B. Dawson and J. R. Evans. CALIFORNIA. Active seismic imaging experiment. Eos, Transactions, American Geophysical Union, v. 66, no. 34, August 20, 1985. p. 603-604.

OP-12. Lucy Birdsall and Kikuye Yanaihara. CALIFORNIA. Sources of geological literature and mine data for the California Transverse Ranges, *in* Geology and mineral wealth of the California Transverse Ranges; Mason Hill volume (D. L. Fife, editor and others). South Coast Geol. Soc., 1982. p. 685-687.

OP-13. D. G. Bishop* and D. G. Howell. An Oligocene submarine rockfall/avalanche breccia, Fiordland, New Zealand. New Zealand Journal of Geology and Geophysics, v. 28, no. 2, 1985. p. 233-241.

OP-14. John Boatwright. IDAHO. Characteristics of the aftershock sequence of the Borah Peak, Idaho, earthquake determined from digital recordings of the events. Bulletin of the Seismological Society of America, v. 75, no. 5, October 1985. p. 1265-1284.

OP-15. G. N. Breit, E. C. Simmons* and M. B. Goldhaber. Dissolution of barite for the analysis of strontium isotopes and other chemical and isotopic variations using aqueous sodium carbonate. Chemical Geology, v. 52, no. 3-4, August 15, 1985. p. 333-336.

OP-16. L. W. Bridges, leader*, K. F. Clark, leader* and R. Dyer, leader. Road log from Chihuahua to Aldama and Cerro de Placer de Guadalupe. Publication - West Texas Geological Society, 84-80, 1985. p. 35-55.

OP-17. N. J. Bridges, J. T. Hanley and R. B. McCammon. PREPRO; a computer program for encoding regional exploration data for use in characteristic analysis. Computers & Geosciences, v. 11, no. 5, 1985. p. 513-519.

OP-18. C. A. Brunner* and W. R. Normark. CALIFORNIA. Biostratigraphic implications for the turbidite depositional processes on the Monterey deep-sea fan, Central California. Journal of Sedimentary Petrology, v. 55, no. 4, July 1985. p. 495-505.

OP-19. D. C. Burrell*, I. R. Kaplan*, M. I. Venkatesan*, B. R. Larsen, C. H. Nelson, C. Heropolous, J. J. Patry, A. S. Naidy*, L. H. Larsen*, T. C. Mowatt*, M. D. Sweeney*, H. V. Weiss* and D. G. Shaw*. Outer Continental Shelf Environmental Assessment Program; final reports of principal investigators. U. S. Dep. Commer., U. S. Dep. Inter., 33, July 1985. 469 p. (*Available from:* NOAA-OMA-OAD, Alaska Off., Anchorage, AK, United States.)

OP-20. D. A. Cacchione, D. E. Drake, B. Edwards, M. Field, J. Gardner, M Hampton, H. Karl, D. McCulloch, N. Kenyon*, D. Masson* and EEZ-Scan Group*. GLORIA II sonograph mosaic of the Western U.S. Exclusive Economic Zone. Eos, Transactions, American Geophysical Union, v. 66, no. 30, July 23, 1985. p. 553, 555.

OP-21. U. S. Clanton* and E. R. Verbeek. TEXAS. Photographic portrait of active faults in the Houston metropolitan area, Texas, *in* Houston area environmental geology; surface faulting, ground subsidence, hazard liability (E. M. Etter, editor). Houston, TX: D. Armstrong Co., 1981. p. 70-113.

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ABSTRACTS

Abstracts are condensed but informative summaries of presentations made at meetings of scientific and professional organizations. Typically they summarize the principal conclusions of an author's current work but contain little supporting data. Non-Geological Survey personnel who share authorship in abstracts with U.S. Geological Survey personnel are indicated by an asterisk (*) immediately following the name. **These publications are not available from the U.S. Geological Survey.**

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OP-152. Paul Silver* and Stuart Sipkin. Seismic imaging of the "rest of the Earth" [abstr.] Eos, Transactions, American Geophysical Union, v. 66, no. 18, April 30, 1985. p. 303.

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TOPOGRAPHIC MAPS

Standard topographic maps are usually published in 7.5- and 15-minute quadrangles. The map location is given by the latitude and longitude of the southeast (lower right) corner of the quadrangle. Location, scale, and contour interval are indicated for each map in the computer-generated list below. The date of the map is shown in the column following the map name; a second date indicates the latest revision. Provisional maps are essentially standard topographic maps published with modified map finishing and field and compilation procedures. Photorevised maps have not been field checked. Series converted maps include 15-minute maps compiled from 7.5-minute maps, and 7.5-minute maps compiled from 7.5-minute source materials initially published as 15-minute maps. Orthophotomaps are multicolor photographic-image maps in standard quadrangle format with added selected topographic detail. Orthophotoquads are monocolor photographic-image maps in standard quadrangle format without topographic detail. Most orthophotoquads are not being published but are available in the form of diazo or photographic prints. The Index to Orthophotoquad Mapping showing information about available published and unpublished orthophotoquads is free on request from the distribution centers listed on p. 2. County maps are multicolor topographic maps at scales of 1:50,000 or 1:100,000. Some counties require more than one map and the cost is $3.60 per map. Level of content may vary between States, and State sales indexes should be consulted for a more detailed description of each map. Planimetric maps at intermediate scales of 1:50,000 or 1:100,000 are available in both quadrangle and county format for selected areas of the country. Most of these maps are not being published but are available in other forms. Copies of the drawings which comprise these maps are available either as a composite of all features or separately by feature. An Index to Intermediate-Scale Series Mapping showing information about available published and unpublished intermediate-scale maps is free on request from the distribution centers listed on p. 2.

Standard quadrangle maps and orthophotoquads are sold for $2.25 per copy. Discount rates and ordering instructions are given on p. 2. State topographic indexes are free on request. Each State index shows the areas mapped and gives a list of local dealers who sell topographic maps.

MAPS PUBLISHED DECEMBER 1985

NEW MAPS - STANDARD

STATE	QUADRANGLE NAME	YEAR SURV-ED	LOCATION (SE CORNER) LATITUDE D M S	LONGITUDE D M S	SCALE	CONTOUR INTERVAL FEET/METERS*	RMKS
OKLAHOMA	EAGLE CITY	1981-85	35 52 30	98 30	1:24,000	10 - -	
	FAY	1981-85	35 45	98 37 30	1:24,000	10 - -	
	PUTNAM	1982-85	35 45	98 52 30	1:24,000	10 - -	
	PUTNAM NW	1982-85	35 52 30	98 52 30	1:24,000	10 - -	
	ROUGH CREEK	1982-85	35 45	98 45	1:24,000	10 - -	
	SQUAW CREEK	1981-85	35 37 30	98 30	1:24,000	10 - -	
	WEBB	1983-85	35 52 30	99 7 30	1:24,000	10 - -	

# DENOTES A 7.5 X 15-MINUTE FORMATTED MAP.
* INDICATES CONTOUR INTERVALS IN METERS.
1ST CONTOUR INTERVAL LISTED FOR EACH MAP=BASIC INTERVAL, 2D=SUPPLEMENTAL INTERVAL AND 3D=EXTRA INTERVAL.
'2' DENOTES AN ORTHOPHOTOMAP, AND '3', A MAP WITH BATHYMETRIC FEATURES.

NEW MAPS - PROVISIONAL

STATE	QUADRANGLE NAME	YEAR SURV-ED	LOCATION (SE CORNER) LATITUDE D M S	LONGITUDE D M S	SCALE	CONTOUR INTERVAL FEET/METERS*	RMKS
CALIFORNIA	CAPTAIN JACKS STRONGHOLD	1982-85	41 45	121 30	1:24,000	40 - -	
	DEWITT PEAK	1982-85	40 7 30	121 52 30	1:24,000	40 - -	
	MOUNT COME	1982-85	41 45	121 37 30	1:24,000	40 - -	
	RED ROCK LAKES	1982-85	41 45	121 45	1:24,000	40 10 -	
	SAMS NECK	1982-85	41 52 30	122	1:24,000	40 20 -	
	SHEEP MOUNTAIN	1982-85	41 45	121 52 30	1:24,000	40 10 -	
CALIFORNIA OREGON	HATFIELD	1982-85	41 52 30	121 30	1:24,000	40 10 -	
IDAHO	KELLOGG EAST	1980-85	47 30	116	1:24,000	40 - -	
	KELLOGG WEST	1980-85	47 30	116 7 30	1:24,000	40 - -	
	PRICHARD	1980-85	47 37 30	115 52 30	1:24,000	40 - -	
LOUISIANA	WELSH NORTH	1983-85	30 15	92 45	1:24,000	5 - -	

NEW MAPS - PROVISIONAL

STATE	QUADRANGLE NAME	YEAR SURV-ED	LOCATION (SE CORNER) LATITUDE DEG	LAT MIN	LAT SEC	LONGITUDE DEG	LONG MIN	LONG SEC	SCALE	CONTOUR INTERVAL FEET/METERS*		RMKS
MICHIGAN	BIG BLUE LAKE	1981-85	43	22	30	86	7	30	1:24,000	* 3	1.5	-
	BRIDGETON	1981-85	43	15		85	52	30	1:24,000	* 3	1.5	-
	CORAL	1981-85	43	15		85	22	30	1:24,000	* 3	1.5	-
	FREMONT	1981-85	43	22	30	85	52	30	1:24,000	* 3	1.5	-
	GRANT	1981-85	43	15		85	45		1:24,000	* 3	1.5	-
	HOWARD CITY	1981-85	43	22	30	85	22	30	1:24,000	* 3	-	-
	LAKEVIEW	1981-85	43	22	30	85	15		1:24,000	* 3	-	-
	MUNISING	1981-85	46	22	30	86	37	30	1:24,000	* 3	-	-
	NEWAYGO	1981-85	43	22	30	85	45		1:24,000	* 3	1.5	-
	SAND LAKE	1981-85	43	15		85	30		1:24,000	* 3	-	-
	SAND LAKE SW	1981-85	43	15		85	37	30	1:24,000	* 3	1.5	-
	TIFT CORNER	1981-85	43	22	30	85	30		1:24,000	* 3	-	-
	TRUFANT	1981-85	43	15		85	15		1:24,000	* 3	-	-
	TWIN LAKE	1981-85	43	15		86	7	30	1:24,000	* 3	1.5	-
	WOLF LAKE	1981-85	43	15		86			1:24,000	* 3	1.5	-
	WOODLAND PARK	1982-85	43	37	30	85	45		1:24,000	* 3	-	-
NEBRASKA	CHESTERFIELD FLATS	1983-85	42	30		101			1:24,000	20	10	-
	CODY SE	1983-85	42	45		101			1:24,000	20	-	-
	COOPER CANYON	1983-85	42	45		100	52	30	1:24,000	20	-	-
	ELI SW	1983-85	42	45		101	22	30	1:24,000	20	-	-
	FARM FLAT	1983-85	42	30		101	15		1:24,000	20	-	-
	HEATH VALLEY	1984-85	42	37	30	101	15		1:24,000	20	-	-
	INDIAN HILL	1984-85	42	30		101	22	30	1:24,000	20	-	-
	KENNEDY	1984-85	42	30		100	45		1:24,000	20	-	-
	KENNEDY NW	1983-85	42	37	30	100	52	30	1:24,000	20	-	-
	KILGORE SE	1983-85	42	45		100	45		1:24,000	20	10	-
	MEDICINE LAKE	1984-85	42	37	30	101	22	30	1:24,000	20	10	-
	POWDERHORN VALLEY	1983-85	42	37	30	101			1:24,000	100	-	-
	POWDERHORN VALLEY SW	1983-85	42	30		101	7	30	1:24,000	20	10	-
	SNAKE RIVER FALLS	1983-85	42	37	30	100	45		1:24,000	20	-	-
	SPRING CANYON	1983-85	42	45		101	7	30	1:24,000	20	10	-
	SPRING LAKE	1984-85	42	37	30	101	7	30	1:24,000	20	10	-
	WINDMILL LAKE	1983-85	42	30		100	52	30	1:24,000	20	-	-
NEBRASKA SOUTH DAKOTA	CODY EAST	1983-85	42	52	30	101	7	30	1:24,000	20	-	-
	CROOKSTON WEST	1983-85	42	52	30	100	45		1:24,000	20	10	-
	KILGORE	1983-85	42	52	30	100	52	30	1:24,000	20	10	-
	NENZEL	1983-85	42	52	30	101			1:24,000	20	10	-
NEVADA	HARRISON PASS	1982-85	40	15		115	30		1:24,000	40	20	-
	THATCHER SPRING	1983-85	40	15		116	15		1:24,000	40	-	-
OREGON	ASPEN LAKE	1982-85	42	15		122			1:24,000	20	10	-
	CHERRYVILLE	1983-85	45	15		122	7	30	1:24,000	40	-	-
	CRATER LAKE WEST	1982-85	42	52	30	122	7	30	1:24,000	40	-	-
	DAIRY	1982-85	42	7	30	121	30		1:24,000	20	10	-
	DOLPH	1982-85	45			123	45		1:24,000	40	-	-
	DRAKE CROSSING	1983-85	44	52	30	122	37	30	1:24,000	40	-	-
	HEBO	1982-85	45	7	30	123	45		1:24,000	40	-	-
	KILCHIS RIVER	1982-85	45	30		123	45		1:24,000	40	20	-
	LAKE OF THE WOODS NORTH	1982-85	42	22	30	122	7	30	1:24,000	20	10	-
	NEHALEM	1982-85	45	37	30	123	52	30	1:24,000	40	20	-
	PELICAN BAY	1982-85	42	22	30	122			1:24,000	20	10	-
	REEDSPORT	1982-85	43	37	30	124			1:24,000	40	-	-
	SOAPSTONE LAKE	1982-85	45	45		123	45		1:24,000	40	20	-
	SPRAGUE RIVER WEST	1982-85	42	22	30	121	30		1:24,000	20	10	-
	SWAN LAKE	1982-85	42	15		121	30		1:24,000	20	10	-
	TILLAMOOK	1982-85	45	22	30	123	45		1:24,000	40	20	-
	WOCUS	1982-85	42	15		121	45		1:24,000	20	10	-
UTAH	ABAJO PEAK	1979-85	37	45		109	22	30	1:24,000	40	-	-
	BLANDING SOUTH	1980-85	37	30		109	22	30	1:24,000	20	-	-
	CATHEDRAL BUTTE	1979-85	37	52	30	109	37	30	1:24,000	40	-	-
	EASTLAND	1980-85	37	45		109	7	30	1:24,000	20	-	-
	FABLE VALLEY	1979-85	37	52	30	109	52	30	1:24,000	40	-	-
	GLENDALE	1981-85	37	15		112	30		1:24,000	40	-	-
	HOUSE PARK BUTTE	1979-85	37	52	30	109	45		1:24,000	40	-	-
	KANE GULCH	1980-85	37	30		109	52	30	1:24,000	20	-	-
	MANCOS JIM BUTTE	1979-85	37	37	30	109	30		1:24,000	40	-	-
	MONTICELLO LAKE	1980-85	37	52	30	109	22	30	1:24,000	40	-	-
	MOUNT CARMEL	1981-85	37	7	30	112	37	30	1:24,000	40	-	-
	NAVAJO LAKE	1980-85	37	30		112	45		1:24,000	40	-	-

NEW MAPS - PROVISIONAL

STATE	QUADRANGLE NAME	YEAR SURV-ED	LOCATION (SE CORNER) LATITUDE D E G	M I N	S E C	LONGITUDE D E G	M I N	S E C	SCALE	CONTOUR INTERVAL FEET/METERS*			RMKS
UTAH ARIZONA	YELLOWJACKET CANYON	1981-85	37			112	37	30	1:24,000	40	-	-	
WASHINGTON	HOODSPORT	1980-85	47	22	30	123	9		1:24,000	40	-	-	
	LILLIWAUP	1980-85	47	22	30	123			1:24,000	20	-	-	
	MOON MOUNTAIN	1982-85	48	15		118	15		1:24,000	40	-	-	
	UNION	1980-85	47	15		123			1:24,000	20	10	-	
WYOMING	FONTENELLE GAP	1980-85	42			110	22	30	1:24,000	40	-	-	
	THE PALISADES	1980-85	42			110	15		1:24,000	20	-	-	

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'3' DENOTES A MAP WITH BATHYMETRIC FEATURES.

REVISED MAPS (LIMITED REVISION)

STATE	QUADRANGLE NAME	YEAR SURV-REV-ED	LOCATION (SE CORNER) LATITUDE D E G	M I N	S E C	LONGITUDE D E G	M I N	S E C	SCALE	CONTOUR INTERVAL FEET/METERS*			RMKS
OREGON WASHINGTON	ASTORIA	1981 84	46	7	30	123	45		1:24,000	50	-	-	3
WASHINGTON	OCEAN PARK	1981 84	46	22	30	124			1:24,000	50	-	-	3
WASHINGTON OREGON	CAPE DISAPPOINTMENT	1981 84	46	15		124			1:24,000	50	-	-	3
	CHINOOK	1981 84	46	15		123	52	30	1:24,000	50	-	-	3
	KNAPPTON	1984 84	46	15		123	45		1:24,000	50	-	-	3

# DENOTES A 7.5 X 15-MINUTE FORMATTED MAP.
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'2' DENOTES AN ORTHOPHOTOMAP, AND '3', A MAP WITH BATHYMETRIC FEATURES.

REVISED MAPS (PHOTOREVISION)

STATE	QUADRANGLE NAME	YEAR SURV-REV-ED	LOCATION (SE CORNER) LATITUDE D E G	M I N	S E C	LONGITUDE D E G	M I N	S E C	SCALE	CONTOUR INTERVAL FEET/METERS*			RMKS
ALABAMA	SNOWDOUN	1981-81-85	32	7	30	86	15		1:24,000	10	-	-	
ALABAMA GEORGIA	JAMESTOWN	1967-81-84	34	22	30	85	30		1:24,000	20	-	-	
COLORADO	ROCK CROSSING	1972-83-84	37	22	30	103	52	30	1:24,000	20	-	-	
GEORGIA	BETWEEN	1964-81-85	33	45		83	45		1:24,000	20	-	-	
	GREENSBORO	1972-81-85	33	30		83	7	30	1:24,000	20	-	-	
	JUNCTION CITY	1971-81-85	32	30		84	22	30	1:24,000	10	-	-	
	LAWRENCEVILLE	1964-81-85	33	52	30	83	52	30	1:24,000	20	-	-	
	LOGANVILLE	1964-81-85	33	45		83	52	30	1:24,000	20	-	-	
	SHADY DALE	1972-81-85	33	22	30	83	30		1:24,000	20	-	-	
MARYLAND	LEONARDTOWN	1963-81-84	38	15		76	37	30	1:24,000	10	-	-	

REVISED MAPS (PHOTOREVISION)

STATE	QUADRANGLE NAME	YEAR SURV-REV-ED	LOCATION (SE CORNER) LATITUDE D E G	M I N	S E C	LONGITUDE D E G	M I N	S E C	SCALE	CONTOUR INTERVAL FEET/METERS*			RMKS
MINNESOTA	BABBITT NE	1952-81-84	47	37	30	91	45		1:24,000	10	-	-	
	BIWABIK	1950-81-85	47	30		92	15		1:24,000	10	-	-	
	KINNEY	1951-81-85	47	30		92	37	30	1:24,000	10	-	-	
	LEO	1966-82-85	48	45		96	15		1:24,000	5	-	-	
	LOST LAKE	1956-81-85	47	45		92	22	30	1:24,000	10	-	-	
	REAN	1961-82-85	48	7	30	96	37	30	1:24,000	5	-	-	
	VIRGINIA	1951-81-85	47	30		92	30		1:24,000	10	-	-	
MISSOURI	ALLEY SPRING	1965-82-85	37	7	30	91	22	30	1:24,000	20	-	-	
	BARTLETT	1964-82-85	37			91	22	30	1:24,000	20	-	-	
	CABOOL NW	1951-82-85	37	7	30	92	7	30	1:24,000	20	-	-	
	CENTERVILLE	1968-82-85	37	22	30	90	52	30	1:24,000	20	-	-	
	CLEARWATER DAM	1968-82-85	37	7	30	90	45		1:24,000	20	-	-	
	COURTOIS	1978-82-85	37	45		91			1:24,000	20	-	-	
	DEVILS ELBOW	1954-82-85	37	45		92			1:24,000	10	-	-	
	DUNCAN	1956-82-85	37	15		92	37	30	1:24,000	20	-	-	
	ELDRIDGE EAST	1978-82-85	37	45		92	37	30	1:24,000	10	-	-	
	ELLINGTON	1968-82-85	37	7	30	90	52	30	1:24,000	20	-	-	
	GIPSEY	1963-82-85	37	7	30	90	7	30	1:24,000	20	-	-	
	GROVESPRING	1956-82-85	37	22	30	92	30		1:24,000	20	-	-	
	HUZZAH	1978-82-85	37	52	30	91	7	30	1:24,000	20	-	-	
	MANSFIELD NE	1951-82-85	37	7	30	92	30		1:24,000	20	-	-	
	MARAMEC SPRING	1963-82-85	37	52	30	91	30		1:24,000	10	-	-	
	MONTAUK	1951-82-85	37	22	30	91	37	30	1:24,000	20	-	-	
	MOUNTAIN GROVE NORTH	1951-82-85	37	7	30	92	15		1:24,000	20	-	-	
	MOUNTAIN GROVE SOUTH	1951-82-85	37			92	15		1:24,000	20	-	-	
	NEWBURG	1950-82-85	37	52	30	91	52	30	1:24,000	10	-	-	
	NORWOOD	1951-82-85	37			92	22	30	1:24,000	20	-	-	
	OWENS	1951-82-85	37	7	30	92	22	30	1:24,000	20	-	-	
	SEATON	1963-82-85	37	45		91	30		1:24,000	10	-	-	
	SHOOK	1966-82-85	37			90	15		1:24,000	20	-	-	
	STEELVILLE	1978-82-85	37	52	30	91	15		1:24,000	20	-	-	
	SUMMERSVILLE NE	1968-82-85	37	7	30	91	30		1:24,000	20	-	-	
	WAYNESVILLE	1954-82-85	37	45		92	7	30	1:24,000	10	-	-	
	WINONA	1965-82-85	37			91	15		1:24,000	20	-	-	
NEBRASKA	BATTLE CREEK SE	1963-81-85	41	45		97	30		1:24,000	10	-	-	
	SPALDING	1954-81-84	41	37	30	98	15		1:24,000	10	-	-	
NEW HAMPSHIRE	CANDIA	1969-82-85	43			71	15		1:24,000	10	-	-	
	GOFFSTOWN	1969-82-85	43			71	30		1:24,000	10	-	-	
	WEARE	1967-82-85	43			71	37	30	1:24,000	20	-	-	
OHIO	CARROLLTON	1959-82-85	40	30		81			1:24,000	20	-	-	
	HARRISVILLE	1960-82-85	40	7	30	80	52	30	1:24,000	20	-	-	
	HUDSON	1963-82-84	41	7	30	81	22	30	1:24,000	10	-	-	
	JEFFERSON	1960-82-85	41	37	30	80	45		1:24,000	10	-	-	
	KILLBUCK	1962-82-85	40	22	30	81	52	30	1:24,000	20	-	-	
	LAKEWOOD	1963-82-85	41	22	30	81	45		1:24,000	10	-	-	
	NEW PHILADELPHIA	1962-82-85	40	22	30	81	22	30	1:24,000	20	-	-	
	PAINESVILLE	1960-82-85	41	37	30	81	7	30	1:24,000	10	-	-	
	ROBERTSVILLE	1960-82-85	40	45		81	7	30	1:24,000	10	-	-	
	ST. CLAIRSVILLE	1960-82-85	40			80	52	30	1:24,000	20	-	-	
	WOOSTER	1961-82-85	40	45		81	52	30	1:24,000	10	-	-	
OREGON	ALDRICH GULCH	1972-81-85	44	15		119	30		1:24,000	40	-	-	
	DAY BASIN	1972-81-85	44	22	30	119	37	30	1:24,000	40	-	-	
	LAWSON MTN.	1968-82-85	44	30		120	15		1:24,000	40	-	-	
	ST. PAUL	1956-81-85	45	7	30	122	52	30	1:24,000	10	-	-	
	WOLF MOUNTAIN	1972-81-85	44	15		119	37	30	1:24,000	40	10	-	
TENNESSEE	CENTERTOWN	1953-81-84	35	37	30	85	52	30	1:24,000	10	-	-	
VIRGINIA	DEERFIELD	1967-82-85	38	7	30	79	22	30	1:24,000	40	-	-	
WASHINGTON	HARRAH	1958-81-85	46	22	30	120	30		1:24,000	10	-	-	
	MEDICINE VALLEY	1958-81-85	46	22	30	120	45		1:24,000	20	-	-	
	POMONA	1953-81-85	46	37	30	120	22	30	1:24,000	20	-	-	
	TAMPICO	1971-81-85	46	30		120	45		1:24,000	20	-	-	
	TOPPENISH	1958-81-85	46	22	30	120	15		1:24,000	20	-	-	
	WAPATO	1958-81-85	46	22	30	120	22	30	1:24,000	10	-	-	
	WHITE SWAN	1958-81-85	46	22	30	120	37	30	1:24,000	20	-	-	
	YAKIMA EAST	1953-81-85	46	30		120	22	30	1:24,000	20	-	-	
	YAKIMA WEST	1958-81-85	46	30		120	30		1:24,000	20	-	-	

REVISED MAPS (PHOTOREVISION)

STATE	QUADRANGLE NAME	YEAR SURV-REV-ED	LOCATION (SE CORNER) LATITUDE D E G	M I N	S E C	LONGITUDE D E G	M I N	S E C	SCALE	CONTOUR INTERVAL FEET/METERS*		RMKS
WYOMING	ALCOVA	1950-80-84	42	30		106	37	30	1:24,000	20	-	-
	BATES CREEK RESERVOIR	1959-80-84	42	22	30	106	7	30	1:24,000	10	-	-
	BENTON BASIN	1951-80-84	42	30		106	45		1:24,000	20	-	-
	BENTON BASIN SW	1951-80-84	42	30		106	52	30	1:24,000	20	-	-
	BESSEMER MOUNTAIN	1951-80-84	42	37	30	106	30		1:24,000	20	-	-
	BIG CHARLIE LAKES	1961-80-84	42	7	30	106			1:24,000	10	-	-
	BROOKHURST	1961-80-85	42	45		106	7	30	1:24,000	20	-	-
	CAMPBELL HILL	1949-80-84	42	52	30	106			1:24,000	20	-	-
	COYOTE SPRINGS	1952-80-84	42	37	30	107	37	30	1:24,000	20	-	-
	CROOKS PEAK	1961-80-84	42	15		107	45		1:24,000	20	-	-
	EMIGRANT GAP NE	1960-80-84	42	52	30	106	30		1:24,000	20	-	-
	GAS HILLS	1958-80-84	42	45		107	30		1:24,000	20	-	-
	JEFFREY CITY	1957-80-84	42	22	30	107	45		1:24,000	20	-	-
	LANKIN DOME	1951-80-84	42	30		107	30		1:24,000	20	-	-
	MC INTOSH MEADOWS	1952-80-84	42	37	30	107	30		1:24,000	20	-	-
	PINE MOUNTAIN SW	1951-80-84	42	45		106	52	30	1:24,000	20	-	-
	PUDDLE SPRINGS	1957-80-84	42	45		107	37	30	1:24,000	20	-	-
	SAGEBRUSH PARK	1962-80-84	42	15		107	37	30	1:24,000	20	-	-
	STAMPEDE MEADOW	1951-80-84	42	30		107	45		1:24,000	20	-	-

# DENOTES A 7.5.X 15-MINUTE FORMATTED MAP.
* INDICATES CONTOUR INTERVALS IN METERS.
1ST CONTOUR INTERVAL LISTED FOR EACH MAP=BASIC INTERVAL,2D=SUPPLEMENTAL INTERVAL AND 3D=EXTRA INTERVAL.
'2' DENOTES AN ORTHOPHOTOMAP,AND '3',A MAP WITH BATHYMETRIC FEATURES.

USGS/DMA 15 MAPS

STATE	QUADRANGLE NAME	YEAR SURV-ED	LOCATION (SE CORNER) LATITUDE D E G	M I N	S E C	LONGITUDE D E G	M I N	S E C	SCALE	CONTOUR INTERVAL FEET/METERS*		RMKS
ARIZONA	COOLIDGE	1983	32	45		111	30		1:50,000	* 10	5	-
	NINETYSIX HILLS	1983	32	45		111			1:50,000	* 20	-	-
	WICKENBURG	1981	33	45		112	30		1:50,000	* 10	-	-
	YUMA	1984	32	30		114	30		1:50,000	* 20	10	-
CALIFORNIA	VICTORVILLE	1978	34	30		117	15		1:50,000	* 20	10	-
FLORIDA	FOUNTAIN	1978	30	15		85	15		1:50,000	* 5	-	-
	MARATHON	1979	24	30		81			1:50,000	* 5	-	-
GEORGIA	REYNOLDSVILLE	1983	30	45		84	45		1:50,000	* 10	-	-
LOUISIANA	NEGREET	1981	31	15		93	30		1:50,000	* 10	-	-
NEVADA	ALAMO 3	1983	37			115	15		1:50,000	* 40	20	-
	BELL MOUNTAIN	1980	39			118			1:50,000	* 40	-	-
	CANE SPRING	1983	36	45		116			1:50,000	* 20	-	-
	CARROLL SUMMIT	1980	39	15		117	30		1:50,000	* 40	20	-
	DIXIE HOT SPRINGS	1980	39	45		118			1:50,000	* 40	20	-
	DIXIE VALLEY	1980	39	30		118			1:50,000	* 40	5	-
	EASTGATE	1980	39	15		117	45		1:50,000	* 40	20	-
	FRENCHMAN	1980	39	15		118	15		1:50,000	* 40	10	-
	PAHRANAGAT RANGE	1983	37	15		115	15		1:50,000	* 40	20	-
	RAWHIDE	1980	39			118	15		1:50,000	* 40	10	-
	SHOSHONE MEADOWS	1980	39	45		117	30		1:50,000	* 40	20	-
	SOUTH SHOSHONE PEAK	1980	39			117	30		1:50,000	* 40	20	-
	WEST GATE	1980	39	15		118			1:50,000	* 40	20	-
NEW MEXICO	EL PASO DRAW	1982	32	15		105	30		1:50,000	* 20	-	-
NO. CAROLINA	BURGAW	1983	34	30		77	45		1:50,000	10	-	40
	MAPLE HILL	1983	34	30		77	30		1:50,000	* 10	5	-

USGS/DMA 15 MAPS

STATE	QUADRANGLE NAME	YEAR SURV-ED	LOCATION (SE CORNER) LATITUDE DEG	MIN	SEC	LONGITUDE DEG	MIN	SEC	SCALE	CONTOUR INTERVAL FEET/METERS*			RMKS
SO. CAROLINA	ASHWOOD	1983	34			80	15		1:50,000	* 5	-	-	
UTAH	GOLD HILL IV	1983	40			113	30		1:50,000	* 20	5	-	
	GOLD HILL 1	1984	40	15		113	30		1:50,000	* 5	1	-	

* INDICATES CONTOUR INTERVALS IN METERS.
1ST CONTOUR INTERVAL LISTED FOR EACH MAP=BASIC INTERVAL,2D=SUPPLEMENTAL INTERVAL AND 3D=EXTRA INTERVAL.
'2' DENOTES AN ORTHOPHOTOMAP, AND '3', A MAP WITH BATHYMETRIC FEATURES

INTERMEDIATE-SCALE NEW MAPS

STATE	QUADRANGLE NAME	YEAR SURV-ED	LOCATION (SE CORNER) LATITUDE DEG	MIN	SEC	LONGITUDE DEG	MIN	SEC	SCALE	CONTOUR INTERVAL FEET/METERS*			RMKS
ALABAMA	BIRMINGHAM SOUTH	1981-85	33			86			1:100,000	NO CONTOURS			
CALIFORNIA NEVADA	BRIDGEPORT	1980-85	38			119			1:100,000	* 50	-	-	
FLORIDA	CARRABELLE	1978-84	29	30		84			1:100,000	* 5	-	-	3
ILLINOIS	PEORIA	1980-85	40	30		89			1:100,000	NO CONTOURS			
ILLINOIS MISSOURI	JERSEYVILLE	1982-85	39			90			1:100,000	NO CONTOURS			
KANSAS	BELOIT	1981-85	39			98			1:100,000	NO CONTOURS			
	CLAY CENTER	1981-85	39			97			1:100,000	NO CONTOURS			
	GOODLAND	1980-85	39			101			1:100,000	NO CONTOURS			
	HAYS	1981-85	38	30		99			1:100,000	NO CONTOURS			
	LARNED	1981-85	38			99			1:100,000	NO CONTOURS			
	LEOTI	1983-85	38			101			1:100,000	NO CONTOURS			
	PLAINVILLE	1981-85	39			99			1:100,000	NO CONTOURS			
	SHARON SPRINGS	1983-85	38	30		101			1:100,000	NO CONTOURS			
	ST. FRANCIS	1980-85	39	30		101			1:100,000	NO CONTOURS			
	ULYSSES	1983-85	37	30		101			1:100,000	NO CONTOURS			
MICHIGAN	MARQUETTE	1981-85	46	30		87			1:100,000	NO CONTOURS			
MINNESOTA	ANOKA	1980-85	45			83			1:100,000	NO CONTOURS			
MISSOURI	AVA	1980-85	36	30		92			1:100,000	* 20	-	-	
	FULTON	1983-85	38	30		91			1:100,000	NO CONTOURS			
	MOBERLY	1984-85	39			92			1:100,000	NO CONTOURS			
NEBRASKA	GRAND ISLAND	1981-85	40	30		98			1:100,000	NO CONTOURS			
	KEARNEY	1981-85	40	30		99			1:100,000	NO CONTOURS			
	OGALLALA	1983-85	41			101			1:100,000	NO CONTOURS			
NEVADA	OSGOOD MTS.	1980-85	41			117			1:100,000	* 50	-	-	
NEVADA OREGON IDAHO	QUINN RIVER VALLEY	1980-85	41	30		117			1:100,000	* 50	-	-	
NEW YORK	LONG ISLAND EAST	1980-85	40	30		72			1:100,000	NO CONTOURS			
NO. CAROLINA	WILMINGTON	1983-84	34			77			1:100,000	NO CONTOURS			
	WINSTON-SALEM	1980-84	36			80			1:100,000	NO CONTOURS			

INTERMEDIATE-SCALE NEW MAPS

STATE	QUADRANGLE NAME	YEAR SURV-ED	LOCATION (SE CORNER) LATITUDE D E G	M I N	S E C	LONGITUDE D E G	M I N	S E C	SCALE	CONTOUR INTERVAL FEET/METERS*	RMKS
OKLAHOMA	OKLAHOMA CITY SOUTH	1981-85	35			97			1:100,000	NO CONTOURS	
	TULSA	1980-85	36			95			1:100,000	NO CONTOURS	
	WATONGA	1981-85	35	30		98			1:100,000	NO CONTOURS	
OKLAHOMA KANSAS	PONCA CITY	1981-85	36	30		97			1:100,000	NO CONTOURS	
PENNSYLVANIA	HARRISBURG	1983-84	40			76			1:100,000	NO CONTOURS	
SO. CAROLINA	GREENVILLE	1981-84	34	30		82			1:100,000	NO CONTOURS	
SOUTH DAKOTA	ABERDEEN	1984-85	45			98			1:100,000	NO CONTOURS	
TEXAS	BRADY	1983-85	31			99			1:100,000	NO CONTOURS	
	CRYSTAL CITY	1983-85	28	30		99			1:100,000	NO CONTOURS	
	DENTON	1981-85	33			97			1:100,000	NO CONTOURS	
	DICKENS	1983-85	33	30		100			1:100,000	NO CONTOURS	
	EAGLE PASS	1984-85	28	30		100			1:100,000	NO CONTOURS	
	LAREDO	1983-85	27	30		99			1:100,000	NO CONTOURS	
	MARFA	1982-85	30			104			1:100,000	NO CONTOURS	
	MARLIN	1982-85	31			96			1:100,000	NO CONTOURS	
	MINERAL WELLS	1983-85	32	30		98			1:100,000	NO CONTOURS	
	NEW BRAUNFELS	1983-85	29	30		98			1:100,000	NO CONTOURS	
	PLEASANTON	1983-85	28	30		98			1:100,000	NO CONTOURS	
	PORT MANSFIELD	1983-85	26	30		97			1:100,000	NO CONTOURS	
	SAN AMBROSIA CREEK	1984-85	28			100			1:100,000	NO CONTOURS	
	SAN SABA	1982-85	31			98			1:100,000	NO CONTOURS	
TEXAS	SNYDER	1982-85	32	30		100			1:100,000	NO CONTOURS	
	VAN HORN	1982-85	31			104			1:100,000	NO CONTOURS	
	WACO	1981-85	31	30		97			1:100,000	NO CONTOURS	
	ZAPATA	1983-85	26	30		99			1:100,000	NO CONTOURS	
TEXAS OKLAHOMA	GAINESVILLE	1981-85	33	30		97			1:100,000	NO CONTOURS	
WISCONSIN	WISCONSIN DELLS	1980-85	43	30		88			1:100,000	NO CONTOURS	

* INDICATES CONTOUR INTERVALS IN METERS.
1ST CONTOUR INTERVAL LISTED FOR EACH MAP=BASIC INTERVAL, 2D=SUPPLEMENTAL INTERVAL AND 3D=EXTRA INTERVAL.
'3' DENOTES A MAP WITH BATHYMETRIC FEATURES.
NOTE: INTERMEDIATE-SCALE MAPS ARE PREPARED ON A 30 X 60-MINUTE FORMAT USING FEATURE-SEPARATION DRAWINGS AND SYMBOLIZATION SUITABLE FOR DIGITIZING. THEY ARE PRINTED ON SHEETS THAT ARE 24" X 40" TO 46" AND COST $4.00.

1:100,000 INTERMEDIATE-SCALE BUREAU OF LAND MANAGEMENT MAPS

STATE	QUADRANGLE NAME	YEAR SURV-REV-ED	LOCATION (SE CORNER) LATITUDE D E G	M I N	S E C	LONGITUDE D E G	M I N	S E C	SCALE	CONTOUR INTERVAL FEET/METERS*	RMKS
COLORADO	CANYON OF LODORE	1979 80 85	40	30		108			1:100,000	* 50 - -	4
	CANYON OF LODORE	1979 80 85	40	30		108			1:100,000	* 50 - -	5
	CRAIG	1979 80 85	40	30		107			1:100,000	* 50 - -	4
	CRAIG	1979 80 85	40	30		107			1:100,000	* 50 - -	5
	DELTA	1976 80 85	38	30		108			1:100,000	* 50 - -	4
	DELTA	1976 80 85	38	30		108			1:100,000	* 50 - -	5
	GRAND JUNCTION	1979 81 85	39			108			1:100,000	* 50 - -	5
	GRAND JUNCTION	1979 81 85	39			108			1:100,000	* 50 - -	4
	MEEKER	1979 85 85	40			107			1:100,000	* 50 - -	5
	MEEKER	1979 85 85	40			107			1:100,000	* 50 - -	4
	RANGELY	1979 85 85	40			108			1:100,000	* 50 - -	5
	RANGELY	1979 85 85	40			108			1:100,000	* 50 - -	4
	VAIL	1980 85 85	39	30		106			1:100,000	* 50 - -	5
	VAIL	1980 85 85	39	30		106			1:100,000	* 50 - -	4

1:100,000 INTERMEDIATE-SCALE BUREAU OF LAND MANAGEMENT MAPS

STATE	QUADRANGLE NAME	YEAR SURV-REV-ED	LOCATION (SE CORNER) LATITUDE D E G	M I N	S E C	LONGITUDE D E G	M I N	S E C	SCALE	CONTOUR INTERVAL FEET/METERS*			RMKS
IDAHO UTAH	MALAD CITY	1980 84 85	42			112			1:100,000	* 50	-	-	4
	MALAD CITY	1980 84 85	42			112			1:100,000	* 50	-	-	5

* INDICATES CONTOUR INTERVALS IN METERS.
1ST CONTOUR INTERVAL LISTED FOR EACH MAP=BASIC INTERVAL, 2D=SUPPLEMENTAL INTERVAL AND 3D=EXTRA INTERVAL.
"3" DENOTES A MAP WITH BATHYMETRIC FEATURES.
NOTE: ALL THE BLM EDITIONS LISTED ABOVE, WHICH ARE MOSTLY PLANIMETRIC (WITHOUT CONTOURS), ARE AVAILABLE IN TWO EDITIONS. THE SURFACE MANAGEMENT EDITION,DENOTED BY "4", SHOWS PUBLIC LANDS ADMINISTERED BY BLM,OTHER FEDERAL LANDS, STATE LANDS, AND PRIVATE LANDS. RESTRICTIONS ON THE MANAGEMENT OF FEDERAL LANDS ESTABLISHED BY WITHDRAWALS ARE ALSO SHOWN. THE SURFACE-MINERALS MANAGEMENT EDITION,"5", HAS THE EXTENT OF FEDERALLY-OWNED MINERAL RIGHTS OVERPRINTED ON THE SURFACE MANAGEMENT EDITION. BOTH ARE PRINTED ON SHEETS THAT ARE 29" BY 42" AND COST $ 4.00 EACH. WHEN ORDERING, SPECIFY EITHER SURFACE OR SURFACE-MINERALS MANAGEMENT EDITION.

STATE TOPOGRAPHIC AND
OTHER MAP COVERAGE INDEXES
(REVISED)
FREE ON APPLICATION

INDEX TO LAND USE AND LAND COVER AND ASSOCIATED MAPS
(1:100,000 AND 1:250,000-SCALE) OCTOBER 1,1985.

7 1/2 MINUTE MAPS PREVIOUSLY PUBLISHED BUT NOT LISTED IN 1985.

SHEEP CAMP SPRING,CALIF. (P. MAP) 1985	34 22	115 07
IRONTON,MICHIGAN (P.MAP) 1983	45 15	085 07
HYDRO,OKLA. 1985	35 30	098 30
PARALLEL,OKLA. 1985	35 52	098 45
WEATHERFORD,OKLA. 1985	35 30	098 37
WEATHERFORD NW,OKLA. 1985	35 37	098 37

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IGNIRPUF RIVER 1983.	69 00	153 00
MEADE RIVER 1983.	70 00	156 00

INDEX

This is an index of Geological Survey publications issued in January and articles by Geological Survey personnel in non-Geological Survey publications that came to our attention in January divided into a general index, including subjects and areas, and an author index.

ABBREVIATIONS USED

A-	Antarctic Geologic Map	OC-	Oil and Gas Investigations Chart
B	Bulletin	OF	Open-File Report
C	Circular	OP	Outside Publications
C-	Coal Investigations Map	P	Professional Paper
GP-	Geophysical Investigations Map	p.	Page number of publications having no series designation
GQ-	Geologic Quadrangle Map		
HA-	Hydrologic Investigations Atlas	PB-, ADA	Report available only through the National Technical Information Service
I-	Miscellaneous Investigations Series		
L-	Land Use and Land Cover Map	TWI	Techniques of Water-Resources Investigations
MF-	Miscellaneous Field Studies Map	W	Water-Supply Paper
MR-	Mineral Investigations Resources Map	WRI	Water-Resources Investigations

Outside journals and books are not available from the U.S. Geological Survey.

GENERAL

A

absolute age *see also* geochronology; isotopes

absolute age—dates
diabase: Progress on geochronology of Mesozoic diabases and basalts C 0946
granites: Isotopic studies of postorogenic granites from the northeastern Arabian Shield, Kingdom of Saudi Arabia OF 85-0726
lava: Eruptive history of Mount Mazama and Crater Lake Caldera, Cascade Range, USA OP-4
metavolcanic rocks: A bimodal Archean volcanic series, Owl Creek Mountains, Wyoming OP-91
norite: Origin of the Sudbury Complex by meteoritic impact; neodymium isotopic evidence OP-40
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plutonic rocks: Ages and strontium initial ratios of plutonic rocks in a transect of the Arabian Shield OF 85-0727
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syenites: Cambrian nepheline syenite complex at Jabal Sawda, Midyan region, Kingdom of Saudi Arabia OP-78

acoustical methods *see under* geophysical methods

acoustical surveys *see under* geophysical surveys *under* Arctic Ocean; Pacific Ocean

aeromagnetic surveys *see* magnetic surveys *under* geophysical surveys *under* Alaska; Missouri; Nevada; North Carolina; Pennsylvania

Africa—economic geology
fuel resources: Geology and petroleum resources of central and east-central Africa OF 85-0589
petroleum: Geology and petroleum resources of central and east-central Africa OF 85-0589

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Alabama—stratigraphy
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Alaska—economic geology
mineral resources: In Alaska; Geochemical research program underway OP-116

Alaska—geophysical surveys
magnetic surveys: Preliminary geomagnetic data, College Observatory, Fairbanks, Alaska, September 1985 OF 85-0300-I

Alaska—hydrogeology
maps: Arsenic, nitrate, iron, and hardness, in ground water, Goldstream Road, Yankovich Road, and Murphy Dome Road areas, (T.1 N, R.2 W, FM), Fairbanks, Alaska OF 85-0341

Alaska—oceanography
continental shelf: Digital marine gravity data collected in the Beaufort and Chukchi Seas in 1977 OF 85-0601
— Digital marine gravity data collected in the Chukchi Sea in 1978 OF 85-0602
— Digital marine gravity data collected in the southern Chukchi Sea in 1976 OF 85-0600
— Digital marine gravity data collected in the southern Chukchi Sea in 1980 OF 85-0603
— Outer Continental Shelf Environmental Assessment Program; final reports of principal investigators OP-19

Alaska—seismology
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ammonites *see* Mollusca

Andes *see also* the individual countries

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— Seismic-reflection signature of Cretaceous continental breakup on the Wilkes Land margin, Antarctica OP-38

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