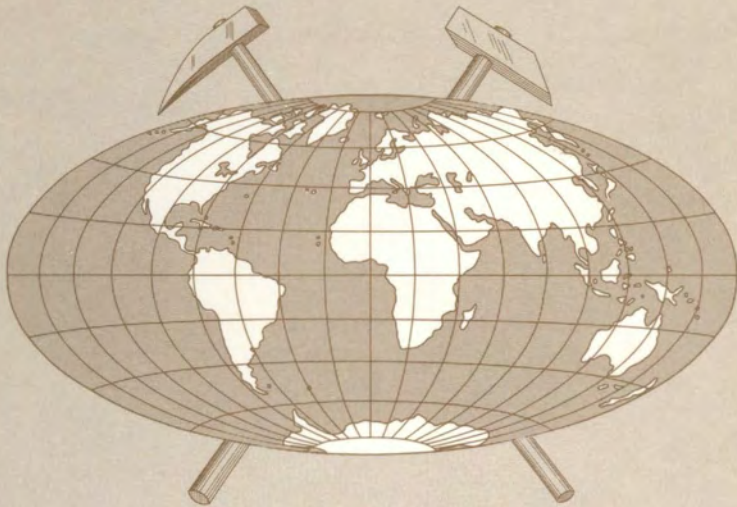




Bibliography of Reports  
Resulting from U.S. Geological  
Survey Scientific and Technical  
Cooperation with Other Countries,  
1975 to June 1980





Bibliography of Reports  
Resulting from U.S. Geological  
Survey Scientific and Technical  
Cooperation with Other Countries,  
1975 to June 1980

*By* WENONAH E. BERGQUIST, ELIZABETH J. TINSLEY,  
*and* VALERIE S. UPTON

---

GEOLOGICAL SURVEY OPEN-FILE REPORT 82-896

CONTENTS

	<u>Page</u>
INTRODUCTION .....	1
ORDERING U.S. GEOLOGICAL SURVEY BOOK REPORTS AND MAPS .....	1
REFERENCES CITED .....	2
BIBLIOGRAPHIC LIST.....	1
General .....	1
Afghanistan .....	9
Africa .....	9
Antarctica .....	10
Arctic regions .....	11
Argentina .....	12
Asia .....	13
Australia .....	13
Bahamas .....	14
Bahrain .....	14
Bangladesh .....	14
Belize .....	14
Bolivia .....	15
Brazil .....	16
Canada .....	18
CENTO countries .....	19
Central African Empire .....	19
Central and South America .....	19
Chile .....	22
China .....	22
Colombia .....	23
Cook Islands .....	24
Costa Rica .....	24
Cuba .....	24
Cyprus .....	25
Dominican Republic .....	25
Ecuador .....	25
Egypt .....	25
El Salvador .....	26
Ethiopia .....	26
France .....	26
French West Indies .....	26
Gabon .....	27
Germany, Federal Republic of .....	27
Greece .....	27
Greenland .....	27
Guatemala .....	28
Guyana .....	29
Haiti .....	29
Iceland .....	30
India .....	31

Indonesia .....	32
Iran .....	33
Ireland .....	33
Israel .....	33
Italy .....	33
Japan .....	34
Jordan .....	35
Kampuchea .....	34
Kenya .....	35
Korea .....	36
Kuwait .....	36
Liberia .....	36
Libya .....	37
Mexico .....	38
Morocco.....	43
Nepal .....	43
New Zealand .....	43
Nicaragua .....	44
Nigeria .....	44
Norway .....	45
Oman .....	45
Pacific region .....	46
Pakistan .....	48
Peru .....	50
Philippines .....	53
Poland .....	53
Portugal .....	54
Qatar .....	54
Romania .....	54
Saudi Arabia .....	54
South Africa, Republic of .....	68
Spain .....	69
Sri Lanka .....	69
Swaziland .....	69
Tanzania .....	70
Thailand .....	70
Tonga .....	70
Turkey .....	70
United Arab Emirates .....	71
United Kingdom .....	71
Uruguay .....	72
U.S.S.R. ....	72
Venezuela .....	73
Vietnam .....	73
Yemen .....	73
Yugoslavia .....	75
Zaire .....	75
Taiwan .....	75
AUTHOR INDEX .....	76
SUBJECT INDEX .....	98

BIBLIOGRAPHY OF REPORTS RESULTING FROM U.S. GEOLOGICAL SURVEY

SCIENTIFIC AND TECHNICAL COOPERATION WITH OTHER COUNTRIES,

1975 to JUNE 1980

By Wenonah E. Bergquist, Elizabeth J. Tinsley,

and Valerie S. Upton

INTRODUCTION

This bibliography is a supplement to U.S. Geological Survey Bulletins 1426 (Bergquist, 1976) and 1263 (Heath and Tabacchi, 1968). The papers listed result from work undertaken by the U.S. Geological Survey (USGS), in cooperation with national earth-science agencies in other countries, partly through technical assistance projects under the auspices of the Agency for International Development, U.S. Department of State, partly under reimbursable assistance projects with other governments on behalf of the Department of State, partly under assistance projects sponsored by international organizations, and partly under scientific exchange projects supported by U.S. agencies such as the National Science Foundation.

This report includes titles published during the period 1975 through June 1980, but is not necessarily complete, as an exhaustive search was not made. Only reports authored solely or in part by USGS members or jointly by USGS and counterpart staff members are listed. Many other reports on USGS cooperative work abroad that were authored entirely by counterpart scientists are not included here. Seven geographic regions and 71 countries are represented. A few titles published prior to 1975 that were not listed in Bulletins 1263 or 1426 are included in this listing.

The reports are listed alphabetically by author, under the appropriate country. Reports of wider geographic scope are given under the continent or geographic region, for example, Africa, Central and South America, or CENTO region. Reports not classifiable by geographic location are listed under the heading "General." All references to reports on water resources and hydrology were provided by J. R. Jones or R. M. Beall, USGS.

ORDERING U.S. GEOLOGICAL SURVEY BOOK REPORTS AND MAPS

Professional Papers, Bulletins, Water-Supply Papers, Techniques of Water-Resources Investigations, Circulars, single copies of the Earthquake Information Bulletin, and some miscellaneous reports, including some from all the foregoing series are listed by the Superintendent of Documents as out of print, may be ordered from the Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street, Arlington, VA 22202, or are available over the counter at USGS

offices at Room 1C402, National Center, 12201 Sunrise Valley Drive, Reston, VA 22092; Room 1028, General Services Building, 19th and F Streets, NW, Washington DC 20244; Room 1012 Federal Building, 125 South State Street, Salt Lake City, UT 84138; Room 1C45, Federal Building, 1100 Commerce Street, Dallas, TX 75242; Room 7638, Federal Building, 300 North Los Angeles Street, Los Angeles, CA 90012; Room 504, Custom House, 555 Battery Street, San Francisco, CA 94111; Room 678, U.S. Court House, West 920 Riverside Avenue, Spokane, WA 99201; and Room 108, Skyline Building, 508 Second Avenue, Anchorage, AK 99501. Subscriptions to the Earthquake Information Bulletin can be obtained only from the Superintendent of Documents, Government Printing Office, Washington, DC 20402.

Map orders should be addressed to Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street, Arlington, VA 22202. Maps may be purchased over the counter at USGS offices where book reports are sold and at 1400 Independence Drive, Rolla, Missouri; 345 Middlefield Road, Menlo Park, California; and Federal Building, 110 Twelfth Avenue, Fairbanks, Alaska. USGS maps are also sold by some 1,650 commercial dealers throughout the United States.

Open-File reports are generally available from the Open-File Services Section, Branch of Distribution, U.S. Geological Survey, Box 25325, Federal Center, Denver, CO 80225, for the cost of duplicating.

#### REFERENCES CITED

- Bergquist, W. E. 1976, Bibliography of reports resulting from U.S. Geological Survey technical cooperation with other countries, 1967-1974: U.S. Geological Survey Bulletin 1426, 68 p.
- Heath, J. A., and Tabacchi, N. B., 1968, Bibliography of reports resulting from U.S. Geological Survey participation in the United States Technical Assistance Program, 1940-67: U.S. Geological Survey Bulletin 1263, 68 p.

## BIBLIOGRAPHIC LIST

Ref.  
No.

### GENERAL

1. Barnes, J. W., Bailey, E. H., and Nackowski, M. P., 1977, Field training in mining geology: a multinational experiment: Institute of Mining and Metallurgy Transactions, Applied Earth Science, v. 86, sec. B, p. B17-B26.
2. Bergquist, W. E., Miller, R. L., Lucas, A. F., and Tyskowski, Jane, 1978, Worldwide directory of national earth science agencies: U.S. Geological Survey Circular 771, 77 p., 8 figs.
3. Bergquist, W. E., Tinsley, E. J., and Upton, V. S., 1979, Bibliographic supplement to USGS Bulletin 1426, 1975 to June 1979: U.S. Geological Survey Open-File Report 79-1518 ((IR)NC-66), 71 p.
4. Botbol, J. M., Sinding-Larsen, Richard, McCammon, R. B., and Gott, G. B., 1977, Weighted characteristic analysis of spatially dependent mineral deposit data: International Association for Mathematical Geology Journal, v. 9, no. 3, p. 309-311.
5. Bryan, W. B., and Moore, J. G., 1977, Compositional variations of young basalts in the Mid-Atlantic Ridge rift valley near lat. 36°49' N.: Geological Society of America Bulletin, v. 88, no. 4, p. 556-570.
6. Byers, V. P., 1977, Preliminary maps showing principal uranium deposits of the world: U.S. Geological Survey Open-File Report 77-40, 4 pls.
7. Byers, V. P., 1978, Principal uranium deposits of the world: U.S. Geological Survey Open-File Report 78-1008, 312 p., 4 pls., 5 figs.
8. Canney, F. C., 1975, Development and application of remote-sensing techniques in the search for deposits of copper and other metals in heavily vegetated areas, status report June 1, 1975: National Technical Information Service PB-246-248/AS, 43 p.
9. Cargill, S. M., and Clark, A. L., eds., 1977, Papers presented at International Geological Correlation Programme Project 98, Leon, Norway, on resource/reserve assessment methods: Mathematical Geology, v. 9, no. 3 (special issue), 337 p.
10. Cargill, S. M., and Clark, A. L., eds., 1978, Papers presented at International Geological Correlation Programme Project 98, Taita Hills Conference: International Association for Mathematical Geology Journal, v. 10, no. 4-5.
11. Cargill, S. M., Meyer, R. F., Picklyk, D. D., and Urquidi, F., 1977, Summary of resource assessment methods resulting from the International Geological Correlation Programme Project 98: International Association for Mathematical Geology Journal, v. 9, no. 3, p. 211-220.

12. Carter, W. D., 1975, EROS program and ERTS-1 satellite applications to geophysical problems: COSPAR: Approaches to earth survey problems through use of space techniques, Akademie-Verlag-Berlin, p. 1-15.
13. Carter, W. D., 1975, Small-scale Landsat image mosaics: An aid to plate tectonics studies [abs.]: EOS, American Geophysical Union, v. 56, no. 6, p. 442.
14. Carter, W. D., in press, Significant results from the use of remote sensing in the exploration for Precambrian mineral deposits: UN Seminar on Precambrian Mineral Deposits, Moscow, USSR, Aug. 1979, 26 p.
15. Carter, W. D., in press, Mineral resource exploration, inventory and assessment: COSPAR, Plenary meeting, Bangalore, India, Advances in Space Technology, 6 p.
16. Carter, W. D., Fischer, W. A., Stancioff, A., and Vincent, R. K., in press, Observing the earth for mineral exploration, in Advances in earth oriented applications of space technology: New York, Pergamon Press, 30 p.
17. Carter, W. D. and Paulson, R. W., 1979, Introduction to monitoring dynamic environmental phenomena of the world using satellite data collection systems, 1978: U.S. Geological Survey Circular 803, 21 p.
18. Carter, W. D., and Rowan, L. C. 1975, The application of remote sensing methods to global tectonics and metallogeny, with special emphasis on mineral exploration [abs.]: International Association on the Genesis of Ore Deposits (IAGOD) Commission on Tectonics of Ore Deposits, meeting of European Geological Societies, Reading University, Reading, England, U.K., Sept. 8-12, 1975.
19. Carter, W. D., and Rowan, L. C., 1977, International Geological Correlation Programme Project 143, Remote sensing and mineral exploration (1977): International Geological Correlation Program, Geological Correlation no. 5, Art. 143, p. 77-78.
20. Carter, W. D., and Rowan, L. C. 1978, Applying satellite technology to energy and mineral exploration: Episodes, v. 1978, no. 4, p. 19-24.
21. Carter, W. D. and Rowan, L. C. 1978, A world-wide approach to remote sensing and mineral exploration: Proceedings 12th International Symposium on Remote Sensing of Environment, v. 1, p. 387-394.
22. Carter, W. D., and Serrano, Mario, 1978, Landsat - a tool to assist the small mine operator: Proceedings, UN Conference on Small Scale Mining of the World, Jurico, Mexico (Nov. 1978), p. 361-376.



23. Clark, A. L., 1977, Guidelines for international data collection and resource assessment and analysis: International Association for Mathematical Geology Journal, v. 9, no. 3, p. 221-233.
24. Clark, A. L., and Cook, J. L., in press, Small mines as a precursor for mineral resource development: U. N. Institute for Training and Research, Special paper - Small Mining Activities on World Wide Basis.
25. Coleman, R. G., and Peterman, Z. E., 1975, Oceanic plagiogranite: Journal of Geophysical Research, v. 80, no. 8, p. 1099-1108.
26. Coury, A. B., and Hendricks, T. A., 1979, Map of prospective hydrocarbon provinces of the world--Europe, West Asia, and Africa: U.S. Geological Survey Miscellaneous Field Studies Map MF-1044-B, scale 1:20,000,000.
27. Coury, A. B., and Hendricks, T. A., 1979, Map of prospective hydrocarbon provinces of the world--East Asia, Australia, and the Pacific: U.S. Geological Survey Miscellaneous Field Studies Map MF-1044-C, scale 1:20,000,000.
28. Coury, A. B., Hendricks, T. A., and Tyler, T. F., 1979, Map of prospective hydrocarbon provinces of the world--North and South America: U.S. Geological Survey Miscellaneous Field Studies Map MF-1044-A, scale 1:20,000,000.
29. Coury, A. B., Hendricks, T. A., and Tyler, T. F., 1979, Bibliography for map of prospective hydrocarbon provinces of the world: U.S. Geological Survey Open-File Report 79-201, 90 p.
30. Czamanske, G. K., and Moore, J. G., 1977, Composition and phase chemistry of sulfide globules in basalt from the Mid-Atlantic Ridge rift valley near 37° N. lat.: Geological Society of America Bulletin, v. 88, no. 4, p. 587-599.
31. Davidson, D. F., 1978, Compilation and distribution of mineral-resource information in the United States: Library Science with a Slant to Documentation, v. 15, no. 1, p. 64-66.
32. Davis, G. H., and Velikanov, A. L., 1979, Hydrological problems arising from the development of energy: Technical papers in hydrology 17, United Nations Educational, Scientific and Cultural Organization, Paris, 32 p.
33. Deutsch, Morris, Strong, A. E., and Estes, J. E., 1977, Use of Landsat data for the detection of marine oil slicks: Proceedings, Offshore Technology Conference, Paper OTC 2766, p. 311-318.

34. Ericksen, G. E., 1976, Landslide incidence and mechanisms during earthquakes, in Lew, H. S., ed., Wind and seismic effects: Proceedings, Joint Panel Conference of the U.S.-Japan cooperative program in Natural Resources, 6th, Proc., National Bureau of Standards Special Publication 444, P. III52-III71.
35. Ericksen, G. E., 1977, Geology, resources, and development potential for naturally occurring nitrates [abs.]: U.S. Geological Survey Circular 768, p. 8-9.
36. Ericksen, G. E., 1977, Nitrate resources in deserts: United Nations Conference on Alternative Strategies for Desert Development and Management, Conference Papers, v. 3, 23 p.
37. Ericksen, G. E., in press, Nitrates: Encyclopedia of Geology.
38. Ericksen, G. E., and Stoertz, G. E., 1978, Salars, salar structures, in Fairbridge, R. W., and Bourgeois, Joanne, eds., Encyclopedia of Sedimentology: Dowden, Hutchinson, and Ross, Inc., Encyclopedia of Earth Sciences, v. 6, p. 636-640.
39. Erickson, R. L., 1977, Summary proposals for investigation of techniques in mineral exploration suited to the special needs of tropical regions: U.S. Geological Survey Open-File Report 77-526, ((IR)NC-54), 14 p.
40. Ferrigno, J. G., and Williams, R. S., Jr., 1978, Satellite image atlas of glaciers: Glaciological Data, World Data Center A for Glaciology (Snow and Ice), Institute of Arctic and Alpine Research, University of Colorado, Boulder, Colorado, Report GD-3, Dec., p. 59-60
41. Ferrigno, J. G., and Williams, R. S., Jr, 1980, Satellite image atlas of glaciers: World Glacier Inventory, Riederalp (Switzerland) Workshop, Proc., IAHS-AISH Publ. no. 126, p. 333-341.
42. Fischer, W. A., Angsuwathana, Prayong, Carter, W. D., Hoshino, Kazuo, Latham, E. H., Albert, N. R., and Rich, E. I., 1976, Surveying earth and its environment from space, in Circum-Pacific energy and mineral resources: American Association of Petroleum Geologists Memoir 25, p. 63-72.
43. Gawarecki, S. J., in press, Altitude control of lineament pattern discrimination and its effect on interpretation: American Society of Photogrammetry, Annual meeting, March 1978.
44. Hein, J. R., 1980, Bibliography of fine-grained siliceous deposits: U.S. Geological Survey Open-File Report 80-931, 122 p.

45. Heindl, L. A., 1979, International cooperation in water resources: GeoJournal, Federal Republic of Germany, v. 3, no. 5, p. 481-487.
46. Hoover, Linn, 1980, International activities: Geotimes, v. 25, no. 2, p. 32-33.
47. Knott, J. M., 1977, Laboratory analysis of suspended-sediment concentration and particle-size distribution: U.N. Development Programme Report OTC/SF, Project INS - 70/527.
48. Knott, J. M., 1978, Final report of sediment specialist: U.N. Development Programme Report OTC/SF, Project INS - 70/527.
49. Kutina, Jan, and Carter, W. D., 1976, Metallogeny and two major east-west fracture zones in the United States [abs.]: International Conference on the new basement tectonics, Second, Newark, Delaware (July 1976), Program abstracts, p. 32-33.
50. Kutina, Jan, and Carter, W. D., 1977, Landsat contributions to studies of plate tectonics: U.S. Geological Survey Professional Paper 1015, p. 75-82.
51. Lauer, D. T., 1976, International training in remote sensing: Proceedings, Regional Cartographic Conference for Asia and the Pacific, 8th, 1976, Jakarta, Indonesia.
52. Lauer, D. T., and Rohde, W. C., 1976, Training and assistance in remote sensing techniques for forest land managers, in Remote Sensing in Forestry, IUFRO World Congress, 16th, Oslo, Norway, 1976, Freiburg, West Germany, IUFRO Subject Group S6.05 Remote Sensing, Proc., p. 530-533.
53. Lee, W. H. K., and Wetmiller, R. J., 1976, Survey of practice in determining magnitude of near earthquakes: Summary report for networks in North, Central, and South America: U.S. Geological Survey Open-File Report 76-677, 73 p., 12 figs.
54. McGuire, R. K., Tatsuoka, F., Iwasaki, T., and Tokida, K., 1980, Empirical and analytical methods of estimating soil liquefaction risk: U.S.-Japan Panel on Wind and Seismic Effects, 10th, Proc.
55. McKee, E. D., ed., 1979, A study of global sand seas: U.S. Geological Survey Professional Paper 1052, 429 p., 15 figs., 1 table.
56. Meyer, R. F., 1977, Petroleum resource data systems: International Association for Mathematical Geology Journal, v. 9, no. 3, p. 281-299.
57. Miesch, A. T., and Reed, B. L., 1979, Compositional structures in two batholiths of Circum-Pacific North America: U.S. Geological Survey Professional Paper 574-H, 31 p.

58. Miller, R. L., and Carter, W. D., 1977, Landsat and Seasat [abs.]: Proceedings, Reunion of Central American Geologists, Fifth, Managua, Nicaragua, February 20-26, 1977.
59. Morgan, J. O., 1975, Training of personnel in remote-sensing operations and interpretation of data, in Personnel training in remote-sensing operations and interpretation of data: U.N. Economic and Social Commission for Asia and Pacific, Seminar on Remote-Sensing Applications, Bangkok, Thailand, Sept. 29-Oct. 6, 1974, Proc., Part II, Documentation, p. 189-191.
60. Orr, D. G., 1975, Second Earth Resources Observation Systems/Agency for International Development international course on remote sensing: U.S. Geological Survey Open-File Report 75-48, ((IR)NC-42), 13 p., 2 tables.
61. Peterson, Jon, 1977, Worldwide standardized seismograph network: U.S. Geological Survey Earthquake Information Bulletin, v. 9, no. 4, p. 36-45.
62. Pettinger, L. R., 1978, A selected bibliography of remote sensing applications for tropical and subtropical vegetation analysis: U.S. National Technical Information System No. PB284683/AS, 47 p.
63. Podwysocki, M. H., 1976, An estimate of field-size distributions for selected sites in the major grain producing countries: Goddard Space Flight Center Document X-923-76-93, 34 p. Also National Technical Information Service N77-21528/3G1.
64. Raup, O. B., ed., 1978, Proceedings of the Geology and Food Conference: U.S. Geological Survey Circular 768, 51 p.
65. Regan, R. D., Cain, J. C., and Davis, W. M., 1975, A global magnetic anomaly map: Journal of Geophysical Research, v. 80, no. 5, p. 794-802.
66. Reinemund, J. A., 1973, Development of remote sensing techniques and methods for earth resources surveys and their possible application to CCOP's activities: U. N. Economic Commission for Asia and the Far East Commission for Coordination of Joint Prospecting for Mineral Resources in Asian Offshore Areas (CCOP), 9th session, Bandung, 1972, Rept. E/CN.11/L.348, p. 50-54.
67. Reinemund, J. A., 1977, International implications of LANDSAT data from a geological viewpoint in Woll, P. W., and Fischer, W. A., eds., Proceedings First Annual William T. Pecora Memorial Symposium: U.S. Geological Survey Professional Paper 1015, p. 3-8.
68. Reinemund, J. A., 1977, The role of scientific and technical cooperation in the identification and assessment of world energy and mineral resources: Materials and Society, v. 1, no. 2, p. 95-99, Pergamon Press, Great Britain.

69. Reinemund, J. A., in press, Possibilities for use of remote sensing from aircraft and spacecraft in the program of the Economic Commission for Asia and the Far East (ECAFE) Coordinating Committee for Offshore Prospecting: ECAFE Coordinating Committee for Offshore Prospecting Report, sec. 4.
70. Reinemund, J. A., and Bergquist, W. E., 1979, International activities of the U.S. Geological Survey in respect to the developing countries [abs.]: U.S. State Department Science and Technology for Development Publication 8990, p. 11-12.
71. Reinemund, J. A., and Watson, J. V., 1978, Achievements of the International Geological Correlation Programme as related to human needs: Episodes, v. 1978, no. 2, p. 3-11.
72. Reinemund, J. A., and Watson, J. V., 1978, Achievements of the International Geological Correlation Programme as related to human needs: U.N. Educational, Scientific, and Cultural Organization General Conference, 12th, Paris, 1978, 20 C/80 Annex, 23 p.
73. Reinemund, J. A., and Watson, J. V., 1978, Achievements of the International Geological Correlation Programme as related to human needs: International Geological Correlation Programme, Geological Correlation, Special issue, Paris, Sept. 1978, p. 7-16.
74. Robinove, C. J., 1975, Disaster assessment and warning with LANDSAT: Michigan Environmental Research Institute Symposium on Remote Sensing of Environment, 10th, Ann Arbor, Michigan, October 1-10, 1975, Summaries, p. 116.
75. Robinove, C. J., 1975, Five fundamental remote-sensing guidelines, in Koopmans, B. N., Scientific, technical, and economic factors affecting the utilization of remote-sensing methods for geological, mineral, and water resources surveys employing aircraft or satellites: U.N. Economic and Social Commission for Asia and Pacific, Seminar on Remote Sensing Applications, Bangkok, Thailand, Sept. 29-Oct. 6, 1974, Proc., Part II, Documentation, p. 83-84.
76. Robinove, C. J., 1975, Some hydrologic and geologic results from earth resources satellites in Worldwide results of experiments using ERTS-1, Skylab, and data from similar sources: U.N. Economic and Social Commission for Asia and Pacific, Seminar on Remote Sensing Applications, Bangkok, Thailand, Sept. 29-Oct. 6, 1974, Proceedings, Part II, Documentation, p. 84-85.
77. Robinove, C. J., 1975, Worldwide disaster warning and assessment with Earth Resources Technology satellites: National Technical Information Service Pub. PB244382/AS, 29 p. Also in Michigan Environmental Research Institute, Center for Remote Sensing Information and Analysis, International Symposium on Remote Sensing of Environment, 10th, Ann Arbor, Michigan, 1975, Proc., p. 811-820.

78. Robinove, C. J., 1976, Worldwide disaster warning and assessment with Earth Resources Technology Satellites [abs.]: U.S. Department of State, Agency for International Development Technical Assistance Bureau, Research and Development Abstracts, v. 4, no. 1, July 1976, p. 26.
79. Sabhain, Sanga, Morgan, J. O., Indranbarya, Boon, and Vibulsresth, Suvit, 1975, Planning, organization and management of national and regional remote-sensing programmes, in Personnel training in remote-sensing operations and interpretation of data: U.N. Economic and Social Commission for Asia and Pacific, Seminar on Remote-Sensing Applications, Bangkok, Thailand, Sept. 29-Oct. 6, 1974, Proc., p. 173-177.
80. Showen, C. R., 1978, Developing an automated water-resources data system: U.N. Economic and Social Commission for Asia and Pacific, Expert Working Group Meeting on Water Resources Systems, Bangkok, Thailand, April 1978, Special Paper, 11 p.
81. Smith, H. W., and Miller, R. L., 1976, Basic geology collection for a Latin American university library, and a guide for building the collection: Pan-American Institute of Geography and History, Revista Geofisica No. 4, June 1976, p. 63-137.
82. Strome, W. M., and Lauer, D. T., 1977, An overview of remote sensing technology transfer in the U.S. and Canada: in International Symposium on Remote Sensing of Environment, 11th, Ann Arbor, Michigan, 1977, Environmental Research Institute of Michigan, Proc., p. 325-331.
83. Tatsumoto, Mitsunobu, 1969, Lead isotopes in volcanic rocks and possible ocean floor thrusting beneath island arcs: Earth and Planetary Science Letters, v. 6, p. 369-376.
84. Taylor, G. C., Jr., 1976, Historical review of the international water-resources program of the U.S. Geological Survey, 1940-70: U.S. Geological Survey Professional Paper 911, 146 p., 57 figs., 6 tables.
85. Terman, M. J., 1976, Identification and significance of plate motion at convergent boundaries [abs.]: International Geological Congress, 25th, Sidney, Australia, Abstracts, v. 3, p. 826-827.
86. Terman, M. J., 1978, Plate-tectonic evolution of the Far East [abs.]: Circum-Pacific Energy and Mineral Resources Conference, 2nd, Honolulu, July-Aug., 1978, Abstracts and Programs of papers, p. 58.
87. Whitmore, F. C., Jr., 1979, Resources for the 21st century: Episodes, v. 1979, no. 4, p. 36-37.
88. Williams, D. L., Lee, Tien-chang, Von Herzen, R. P., Green, K. E., and Hobart, M. A., 1977, Geothermal study of the Mid-Atlantic Ridge near 37° N.: Geological Society of America Bulletin, v. 88, no. 4, p. 531-540.

89. Williams, R. S., Jr., and Carter, W. D., Eds., 1976, ERTS, a new window on our planet: U.S. Geological Survey Professional Paper 929, 362 p., 256 figs.
90. Williams, R. S., Jr., and Ferrigno, J. G., 1979, Satellite image atlas of glaciers [abs.]: W. T. Pecora Symposium, Fifth annual meeting, "Satellite Hydrology," June 10-15, 1979, Sioux Falls, South Dakota,
91. Wolfe, J. W., 1979, Temperature parameters of humid to mesic forests of eastern Asia and relation to forests of other regions of the northern hemisphere and Australasia: U.S. Geological Survey Professional Paper 1106.

#### AFGHANISTAN

92. Domenico, J. A., Overstreet, W. C., Hubert, A. E., and Tripp, R. B., 1979, Tin and related elements in sediments and beach sands from Afghanistan, Iran, and Turkey: U.S. Geological Survey Open-File Report 79-1188 ((IR)AF-4).
93. Milton, D. J., 1977, Applications of ERTS imagery to geology in Afghanistan [abs.]: U.S. Department of State, Agency for International Development, Research and Development, TN-AAA-017, p. 33.
94. Smith, G. I., 1975, Potash and other evaporite resources of Afghanistan: U.S. Geological Survey Open-File Report 75-89, ((IR)AF-2), 69 p., 2 figs., 2 tables.

#### AFRICA

95. Cooley, M. R., and Turner, R. M., 1975, Application of ERTS products in range and water management problems, Sahelian Zone, Mali, Upper Volta, and Niger: U.S. Geological Survey Open-File Report 75-46, ((IR)WA-4), 79 p., 23 figs., 3 tables.
96. Davidson, D. F., in press, Phosphate deposits, and the Tethyan Trough, Africa, and the Middle east: East-West Center Resource Systems Institute publication.
97. Deutsch, Morris, 1975, East Africa seminar on remote-sensing of natural resources and environment: U.S. Geological Survey Open-File Report 75-136, ((IR)NC-41), 59 p., 13 figs., 1 table, 8 appendices.
98. Simpson, R. W., and Bothner, W. A., 1978, Possible extension of the South Atlas fault of North Africa into the Gulf of Maine: Geological Society of America, Abstracts with Programs, p. 493.
99. Van Alstine, R. E., and Schruben, P. G., 1980, Fluorspar resources of Africa: U.S. Geological Survey Bulletin 1487, 25 p.

## ANTARCTICA

100. Cameron, R. E., and Ford, A. B., 1974, Baseline analyses of soils from the Pensacola Mountains: Antarctic Journal of the United States, v. 9, no. 4, p. 116-119.
101. England, A. W., and Nelson, W. H., 1978, Geophysical studies of the Dufek pluton, Pensacola Mountains, 1976-1977: Antarctic Journal of the United States, v. 12, p. 93-94.
102. Ford, A. B., 1975, Stratigraphy and whole-rock chemical variations in the stratiform Dufek intrusion, Pensacola Mountains, Antarctica [abs.]: Geological Society of America Abstracts with Programs, v. 7, no. 7, p. 1077.
103. Ford, A. B., 1976, Stratigraphy of the layered gabbroic Dufek intrusion, Antarctica: U.S. Geological Survey Bulletin 1405-D, 36 p.
104. Ford, A. B., Schmidt, D. L., and Boyd, W. W., Jr., 1978, Geologic map of the Davis Valley quadrangle and part of the Cordiner Peaks quadrangle, Pensacola Mountains, Antarctica: lat 83° to 82°, long 45° to 57°: U.S. Geological Survey Antarctic Geologic Map A-10, scale 1:250,000.
105. Ford, A. B., Schmidt, D. L., Boyd, W. W., Jr., and Nelson, W. H., 1978, Geologic map of the Saratoga Table quadrangle, Pensacola Mountains, Antarctica: lat 84° to 83°, long 45° to 52°30': U.S. Geological Survey Antarctic Geologic Map A-9, scale 1:250,000.
106. Himmelburg, G. R., and Ford, A. B., 1975, Pyroxene compositional trends in the stratiform Dufek intrusion, Antarctica [abs.]: Geological Society of America Abstracts with Programs, v. 7, no. 7, p. 1117.
107. Kellogg, K. S., 1980, Paleomagnetic evidence for oroclinal bending of the southern Antarctic Peninsula: Geological Society of America Bulletin, v. 91, p. 414-420.
108. Mehnert, H. H., Rowley, P. D., and Schmidt, D. L., 1975, K-Ar ages of plutonic rocks in the Lassiter Coast area, Antarctica: U.S. Geological Survey Journal of Research, v. 3, no. 2, p. 233-236.
109. Rowley, P. D., 1978, Geologic studies in Orville Coast and eastern Ellsworth Land, Antarctic Peninsula: Antarctic Journal of the United States, v. 13, no. 4, p. 7-8.
110. Rowley, P. D., Williams, P. L., and Schmidt, D. L., 1977, Geology of an Upper Cretaceous copper deposit in the Andean Province, Lassiter Coast, Antarctic Peninsula: U.S. Geological Survey Professional Paper 984.



111. Schmidt, D. L., Williams, P. L., and Nelson, W. H., 1978, Geologic map of the Schmidt Hills quadrangle and part of the Gambacorta Peak quadrangle, Pensacola Mountains, Antarctica: lat. 84°15' to 83°, long. 52°30' to 60°. U.S. Geological Survey Antarctic Geologic Map A-8, scale 1:250,000.
112. Stuckless, J. S., 1978, Ages for the Vida granite and Olympus granite gneiss, Victoria Valley, southern Victoria Land: Antarctic Journal of the United States, v. 13, no. 4, p. 15-17.
113. Vennum, W. R., in press, Evaporite incrustations and sulfide oxidation products from the southern Antarctic Peninsula: New Zealand Journal of Geology and Geophysics.
114. Wade, F. A., Cathey, C. A., and Oldham, J. B., 1977, Reconnaissance geologic map of the Alexandra Mountains quadrangle, Marie Byrd Land, Antarctica: U.S. Geological Survey Antarctic Geologic Map A-5, scale 1:250,000.
115. Wade, F. A., Cathey, C. A., and Oldham, J. B., 1978, Reconnaissance geologic map of the Gutenko Nunataks quadrangle, Marie Byrd Land, Antarctica: lat. 77° to 76°, long. 138° to 144°. U.S. Geological Survey Antarctic Geologic Map A-11, scale 1:250,000.
116. Williams, R. S. Jr., and Schoonmaker, J. W., Jr., 1979, Surveying Antarctica: from dogsled to satellite: Air and Space, v. 3, no. 2, p. 2-4.

#### ARCTIC REGIONS

117. Campbell, W. J., Gloersen, Per, and Ramseier, R. O., 1974, Synoptic ice dynamics and atmospheric circulation during the Bering Sea experiment, in Results of the U.S. contribution to the joint U.S./U.S.S.R. Bering Sea Experiment: National Aeronautics and Space Administration Goddard Space Flight Center Preprint X-910-74-141, p. 1-30.
118. Gloersen, Per, Ramseier, R. O., Campbell, W. J., Chang, T. C., and Wilheit, T. T., 1974, Variation of ice morphology of selected mesoscale test areas during the Bering Sea experiment, in Results of the U.S. contribution to the joint U.S./U.S.S.R. Bering Sea Experiment: National Aeronautics and Space Administration Goddard Space Flight Center Preprint X-910-74-141, p. 75-101.
119. Gloersen, Per, Ramseier, R. O., Campbell, W. J., Kuhn, P. M., and Webster, W. J., Jr., 1974, Ice thickness distribution as inferred from infrared and microwave remote sensing during the Bering Sea experiment, in Results of the U.S. contribution to the joint U.S./U.S.S.R. Bering Sea Experiment: National Aeronautics and Space Administration Goddard Space Flight Center Preprint X-910-74-141, p. 103-121.

120. Hopkins, D. M., Nelson, C. H., and Perry, R. B., 1976, Physiographic subdivisions of the Chirikov Basin, northern Bering Sea: U.S. Geological Survey Professional Paper 759-B, 7 p.
121. Ramseier, R. O., Gloersen, Per, Campbell, W. J., and Chang, T. C., 1974, Mesoscale description for the principal Bering Sea ice experiment, in Results of the U.S. contribution to the joint U.S./U.S.S.R. Bering Sea experiment: National Aeronautics and Space Administration Goddard Space Flight Center Preprint X-910-74-141, p. 31-73.
122. Todd, Ruth, and Low, Doris, 1980, Foraminifera from the Kara and Greenland Seas, and review of Arctic studies: U.S. Geological Survey Professional Paper 1070, 30 p., 2 pl.

#### ARGENTINA

123. Algermissen, S. T., and Castano, J. C., in press, Earthquake hazard and seismotectonics in western Argentina [abs.]: World Conference on Earthquake Engineering, 7th, 1979.
124. Algermissen, S. T., Castano, J. C., Langer, C. J., Harding, S. T., Bucknam, R. C., and Uliarte, E., 1978, Preliminary report on the western Argentina earthquake of November 23, 1977 [abs.]: Seismological Society of America, Apr. 1978.
125. Aristarain, L. F., Erd, R. C., and Nicolli, H. B., 1979, Searlesita,  $\text{NaBSi}_2\text{O}_5(\text{OH})_2$ , de Tincalayu Provincia de Salta, Argentina: La Plata University [Argentina] National Science Museum, Centennial v. 4, p. 49-61, 1979.
126. Langer, C. J., Algermissen, S. T., Bollinger, G. A., and Castano, J. C., 1979, Aftershocks of the western Argentina earthquake ( $M^S - 7.2$ ) of November 23, 1977: Earthquake Notes, v. 49, no. 4, p. 68-69.
127. Mercer, J. H., Fleck, R. J., Mankinen, E. A., and Sander, W., 1975, Southern Patagonia: Glacial events between 4 m.y. and 1 m.y. ago, in Suggate, R. R., and Cresswell, M. M., eds., Quaternary studies: Royal Society of New Zealand, Wellington, Proc. International Union for Quaternary Research Congress. Proceedings, p. 223-230.
128. Ritter, J. R., 1976, Reconnaissance of sediment transport and channel morphology in the Lower Rio Bermejo basin, Argentina: U.S. Geological Survey Open-File Report 76-564, 41 p., 1 pl., 18 figs.
129. Ritter, J. R., 1977, Reconnaissance of sedimentation in the Rio Pilcomayo Basin, May 1975, Argentina, Bolivia and Paraguay: U.S. Geological Survey Open-File Report 77-327, 34 p., 1 pl., 20 figs.

130. Rojahn, C., Perez, V., Zamarbide, J. L., and Castano, J. C., 1978, An analysis of strong-motion records from the November 23, 1977, San Juan, Argentina, earthquake and December 6, 1977, aftershock [abs.]: Seismological Society of America, Earthquake Notes, v. 49, no. 1, p. 42.
131. Youd, T. L., and Keefer, D. K., 1978, Liquefaction and landslides in the November 23, 1977, earthquake in San Juan, Argentina: Geological Society of America Abstracts with Programs, v. 10, no. 7, p. 521.

#### ASIA

132. Fischer, W. A., 1979, Progress in remote sensing as it applies to missions of Committee for Coordination of Joint Prospecting for Mineral Resources in Asian Offshore areas: U.S. Geological Survey Open-File Report 79-598, ((IR)EA-5), 46 p., 8 figs.
133. Garrison, R. E., 1975, Neogene diatomaceous sedimentation in the Far East: a review with recommendations for further study: U.N. Economic and Social Commission for Asia and the Pacific, Committee for Coordination of Joint Prospecting for Mineral Resources in Asian Offshore Areas, Technical Bulletin, v. 9, p. 57-69.
134. Terman, M. J., 1975, Plate-tectonic implications of crustal extension models in East Asia and North America [abs.]: Geological Society of America Abstracts with Programs, v. 7, no. 7, p. 1295.
135. Terman, M. J., 1977, Cenozoic tectonics of East Asia [abs.]: American Geophysical Union, Maurice Ewing Series, v. 1, p. 468-470.
136. Terman, M. J., 1978, Cenozoic tectonics of East Asia: Indonesian Association of Geologists, Proceedings, Regional Conference on the Geology and Mineral Resources of Southeast Asia, p. 25-26.

#### AUSTRALIA

137. Bunker, C. M., Bush, C. A., Munroe, R. J., and Sass, J. H., 1975, Abundances of uranium, thorium, and potassium for some Australian crystalline rocks: U.S. Geological Survey Open-File Report 75-393, 39 p.
138. Graetz, R. D., Carneggie, D. M., Hacker, R., Lendon, C., and Wilcox, W. G., 1976, A qualitative evaluation of Landsat imagery of Australian rangelands: Australian Rangeland Journal, no. 1, p. 53-59.
139. Harms, J. E., Milton, D. J., and Ferguson, John, in press, Goat Paddock impact crater, Western Australia: Nature.
140. Milton, D. J., Fudali, R. F., Ferguson, John, and Jaques, Lynton, in press, Goat Paddock, Western Australia--an impact crater near the simple-complex transition: National Aeronautics and Space Administration Memorandum,

141. Moore, B. R., and Wachs, T. C., 1976, New low-altitude infrared photo techniques successfully applied to drilling subsurface manganese deposits: Mulga Downs, Western Australia [abs.]: Geological Society of America Abstracts with programs, v. 8, no. 6, Sept. 1976, p. 1016.
142. Munroe, R. J., Sass, J. H., Milburn, G. T., Jaeger, J. C., and Tammemagi, H. Y., 1975, Basic data for some recent Australian heat-flow measurements: U.S. Geological Survey Open-File Report 75-567, 86 p., 10 figs., 66 tables.
143. Robinove, C. J., 1978, Interpretation on a Landsat image of an unusual flood phenomenon in Australia: Remote Sensing of Environment, v. 7, p. 219-225.
144. Robinove, C. J., 1979, Integrated terrain mapping with digital LANDSAT images in Queensland, Australia: U.S. Geological Survey Professional Paper 1102, 39 p., 21 figs., 4 tables.
145. Sass, J. H., Jaeger, J. C., and Munroe, R. J., 1976, Heat flow and near-surface radioactivity in the Australian continental crust: U.S. Geological Survey Open-File Report 76-250, 64 p., 9 figs.
146. Szabo, B. J., 1979, Uranium-series age of coral-reef growth on Rottneest Island, western Australia: Chemical Geology, v. 29, p. M11-M15.

#### BAHAMAS

147. Richardson, E. S., Ball, M. M., Harrison, C. G. A., Bock, W., Nagle, F., Chermak, A., and Varchol, D., 1976, The old Bahama channel: Tectonic boundary between the Bahamas and greater Antilles (abs.): Geological Society of America Abstracts with Programs, v. 8, no. 6, p. 1069.

#### BAHRAIN

148. Grolier, M. J., 1977, Interpretation of Landsat images; Bahrain (preliminary report): U.S. Geological Survey Open-File Report 77-298, ((IR)B-1), 2 p., 1 fig.

#### BANGLADESH

149. Parker, N. A., and Maroof Khan, M. A., 1976, Lightweight aggregate production from claystone and shale in Bangladesh: U.S. Geological Survey Open-File Report 76-163, ((IR)BA-2), 202 p., 12 figs.

#### BELIZE

150. Halley, R. B., Shinn, E. A., Hudson, J. H., and Lidz, Barbara, 1977, Recent and relict topography of Boo Bee Patch reef, Belize: International Coral Reef Symposium, 3rd., May 1977, Proc.; Miami, Florida, Rosensteel School of Marine and Atmospheric Sciences, University of Miami, p. 29-35.

151. Shinn, E. A., Hudson, J. H., Halley, R. B., Lidz, Barbara, and Robbin, D. M., in press, Geology and sediment accumulation rates in the Carrie Bow Cay area, Belize, Central America: Smithsonian Institution, Special Publication.

#### BOLIVIA

152. Brockmann, C. E., and Carter, W. D., 1976, Estudio general de la region del Lago Titicaca evaluando en forma preliminar un sistema de analisis interactivo de imagenes multiespectrales: Bolivia Yacimientos Petroliferos Fiscales, Revista Tecnica v. 5, no. 1, p. 5-31.
153. Carter, W. D., and Brockmann, C. E., 1975, Preliminary evaluation of an interactive multispectral image analysis system - Lake Titicaca region, Bolivia and Peru: COSPAR, 18th Plenary Meeting, Program abstracts, p. 420.
154. Ericksen, G. E., Vine, J. D., and Ballou A., Raul, 1977, Lithium-rich brines at Salar de Uyuni and nearby salars in southwestern Bolivia: U.S. Geological Survey Open-File Report, 77-615 ((IR)BOL-7), 47 p., 17 figs.
155. Ericksen, G. E., Vine, J. D., and Ballou A., Raul, 1978, Chemical composition of lithium-rich brines in Salar de Uyuni and nearby salars in southwest Bolivia: Energy, v. 3, p. 355-363.
156. Evernden, J. F., Kriz, S. J., and Cherroni M., Carlos, 1977, Potassium-argon ages of some Bolivian rocks: Economic Geology, Bulletin, v. 72, no. 6, p. 1042-1061.
157. Hutt, C. R., 1975, High-gain, long-period seismograph station installation report, Zongo Valley, Bolivia: U.S. Geological Survey Open-File Report 75-370, 36 p., 15 figs.
158. Kirkemo, Harold, 1979, Implementation plan for Bolivian mineral exploration fund: U.S. Geological Survey Open-File Report 79-597, ((IR)BOL-5), 250 p., 8 figs.
159. Pojeta, John, Jr., Kriz, Jiri, and Berdan, J. M., 1976, Silurian-Devonian pelecypods and Paleozoic stratigraphy of subsurface rocks in Florida and Georgia, and related Silurian pelecypods from Bolivia and Turkey: U.S. Geological Survey Professional Paper 879, 32 p., 5 pls.
160. Reed, B. L., Curry, John, and Urquidi, Fernando, 1978, In La Paz--Tin explored [Bolivia]: Geotimes, v. 23, no. 5, p. 16-17.
161. Rosenblum, Sam, Anderson, R. J., Oca, I. M. de, and Delgadillo, Edgar, 1975, Notes on the origin of Colluma Crater, Bolivia: U.S. Geological Survey Journal of Research, v. 3, no. 1, p. 31-38.

BRAZIL

162. Cathcart, J. B., 1976, Phosphate investigations in Brazil, 1975: U.S. Geological Survey Open-File Report 76-45, ((IR)BR-84), 25 p., 1 table.
163. Cathcart, J. B., 1978, Phosphorite deposits near Patos de Minas, Minas Gerais, Brazil: American Institute of Mining Engineers, Society of Mining Engineers Transactions, v. 264, p. 1703-1708.
164. Drake, A. A., Jr., 1980, The Serra de Caldas window, Goias: U.S. Geological Survey Professional Paper 1119-A, 11 p., 9 figs.
165. Drake, A. A., Jr., and Morgan, B. A., 1980, Precambrian plate tectonics in the Brazilian shield--Evidence from the pre-Minas rocks of the Quadrilatero Ferrifero, Minas Gerais: U.S. Geological Survey Professional Paper 1119-B, 19 p., 8 figs., 3 tables.
166. Haynes, D. D., and Matzko, J. J., 1961, Results of investigations for uranium in the Tucano basin, Bahia, Brazil: U.S. Geological Survey Professional Paper 424-D, p. 213-214.
167. Herz, Norman, 1977, Timing of spreading in the South Atlantic: Information from Brazilian alkalic rocks: Geological Society of America Bulletin, v. 88, no. 1, p. 101-112.
168. Herz, Norman, 1978, Metamorphic rocks of the Quadrilatero Ferrifero, Minas Gerais, Brazil: U.S. Geological Survey Professional Paper 641-C, 81 p.
169. Houtz, R. E., Ludwig, W. J., Milliman, J. D., and Grow, J. A., 1977, Structure of the northern Brazilian continental margin: Geological Society of America Bulletin, v. 88, p. 711-719.
170. Leo, G. W., 1976, Notes and analytical data on cordierite-bearing pelitic rocks, Serra de Jacobina, Bahia, Brazil: U.S. Geological Survey Open-File Report 76-587, 18 p., 2 pls.
171. Lindsey, D. A., 1975, Depositional environments and paleocurrent directions in the Precambrian Moeda Formation, Minas Gerais, Brazil: U.S. Geological Survey Open-File Report 75-264, ((IR)BR-78), 22 p., 4 figs., 2 tables.
172. Matsui, E., Salati, E., Friedman, Irving, and Brinkman, W. L. F., 1972, Isotope hydrology in the Amazonia II. Relative discharges of the Negro and Solimoes Rivers through  $O^{18}$  concentrations: Acta Amazonica, v. 2, no. 3, p. 31-46. (in Portuguese)
173. Meade, R. H., Nordin, C. F., Jr., and Curtis, W. F., 1979, Sediment in Rio Amazonas and some of its principal tributaries during the high-water seasons of 1976 and 1977: Associacao Brasileira de Hidrologia e Recursos Hidricos, III Simposio Brasileiro de Hidrologia, Anais (proceedings) v. 2, p. 472-485.

174. Meade, R. H., Nordin, C. F., Jr., Curtis, W. F., Mahoney, H. A., and Delaney, B. M., 1979, Suspended-sediment and velocity data, Amazon River and its tributaries [Brazil], June-July 1976 and May-June 1977: U.S. Geological Survey Open-File Report 79-515, 42 p., 4 figs., 6 tables.
175. Meade, R. H., Nordin, C. F., Jr., Curtis, W. F., Rodrigues, F. M. C., do Vale, C. M., and Edmond, J. M., 1979, Sediment loads in the Amazon River: *Nature*, v. 278, no. 5700, p. 161-163.
176. Meade, R. H., Nordin, C. F., Jr., Curtis, W. F., Rodrigues, F. M. C., do Vale, C. M., and Edmond, J. M., 1979, Transporte de sedimentos no rio Amazonas: *Acta Amazonica*, v. 9, no. 3, p. 543-547.
177. Nordin, C. F., Jr., Meade, R. H., Curtis, W. F., Bosio, N. J., and Delaney, B. M., 1979, Particle size of sediments collected from the bed of the Amazon River and its tributaries [Brazil] in May and June 1977: U.S. Geological Survey Open-File Report 79-329, 23 p., 1 fig., 3 tables.
178. Nordin, C. F., Jr., Meade, R. H., Curtis, W. F., Bosio, N. J., and Landim, P. M. B., 1980, Size distribution of Amazon River bed sediment: *Nature*, v. 286, no. 5768, p. 52-53.
179. Offield, T. W., Abbott, E. A., Gillespie, A. R., and Loguercio, Sabino, 1977, Structure mapping on enhanced Landsat images of southern Brazil: Tectonic control of mineralization and speculations on metallogeny: *Geophysics*, v. 42, no. 3, p. 482-500.
180. Snell, L. J., 1979, Hydrologic investigations in the Araguaia-Tocantins River basin, Brazil: U.S. Geological Survey Open-File Report 79-1599, 30 p.
181. Thorman, C. H., and Nahass, Samir, 1977, Reconnaissance geologic study of the Vazante zinc district, Minas Gerais, Brazil: U.S. Geological Survey Open-File Report 77-630, ((IR)BR-87), 28 p., 14 figs.
182. Thorman, C. H., and Nahass, Samir, 1980, Reconnaissance geologic study of the Vazante zinc district, Minas Gerais, Brazil, in Shorter contributions to stratigraphy and structural geology: U.S. Geological Survey Professional Paper 1126, 11-112.
183. White, M. G., 1975, Aluminum resources of Brazil: U.S. Geological Survey Open-File Report 75-30, ((IR)BR-80), 21 p., 1 fig., 4 tables.
184. White, M. G., 1975, Niobium (columbium) and tantalum resources of Brazil: U.S. Geological Survey Open-File Report 75-29, ((IR)BR-76), 34 p., 1 fig., 1 table.
185. White, M. G., and Nagell, R. H., 1975, Lead and zinc resources of Brazil: U.S. Geological Survey Open-File Report 75-49, ((IR)BR-81), 49 p., 1 fig., 4 tables.

## CANADA

186. Addicott, W. O., 1978, Late Miocene mollusks from the Queen Charlotte Islands, British Columbia, Canada: U.S. Geological Survey Journal of Research, v. 6, no. 5, p. 677-690.
187. Andrews, J. T., Szabo, B. J., and Isherwood, W., 1975, Multiple tills, radiometric ages, and assessment of the Wisconsin glaciation in eastern Baffin Island, N.W.T., Canada: A progress report: Arctic and Alpine Research, v. 7, p. 39-59.
188. Arth, J. G., 1976, Rare-earth geochemistry of Archean komatitic and tholeiitic lavas, Munro township, Ontario [Canada], [abs.]: Geological Society of America Abstracts with Programs, v. 8, no. 6, p. 757.
89. Falconer, Allan, Deutsch, Morris, Myers, L. C., and Anderson, Robert, 1975, Photo-optical contrast stretching of Landsat data for multidisciplinary analyses of the Lake Ontario Basin: Canadian Aeronautics and Space Institute, Canadian Symposium on Remote Sensing, Third, Proceedings, p. 173-193.
190. Fullerton, D. S., 1980, Preliminary correlation of post-Erie interstadial events (16,000-10,000 radiocarbon years before present), central and eastern Great Lakes region and Hudson, Champlain, and St. Lawrence lowlands, United States and Canada: U.S. Geological Survey Professional Paper 1089.
191. Harrison, T. M., Armstrong, R. L., Naeser, C. W., and Harkal, J. E., 1979, Geochronology and thermal history of the Coast Plutonic Complex, near Prince Rupert, British Columbia [Canada]: Canadian Journal of Earth Sciences, v. 16, p. 400-410.
192. O'Neil, J. R., and Ghent, E. D., 1975, Stable isotope study of coexisting metamorphic minerals from the Esplanade Range, British Columbia [Canada]: Geological Society of America, v. 86, p. 1708-1712.
193. Ramseier, R. O., Campbell, W. J., Weeks, W. F., Arsenault, L. D., and Wilson, K. L., 1975, Ice dynamics and morphology in the Canadian Archipelago and adjacent Arctic Basin as determined by satellite observations: Environment Symposium on Canada's Continental Margins and Offshore Petroleum Exploration, Calgary, Sept. 29-Oct. 2, 1974, Proceedings.
194. Snavely, P. D., Jr., and Tiffin, D. L., 1980, Seismic reflection profiles from cooperative investigations in the Strait of Juan de Fuca by the U.S. Geological Survey and Geological Survey of Canada aboard the Canadian Survey ship PARIZEAU between May 15 and June 3, 1972 - Part I (Easternmost Segment): U.S. Geological Survey Open-File Report 80-239.



#### CENTO COUNTRIES

195. Bailey, E. H., Barnes, J. W., and Nackowski, M. P., 1975, The CENTO field course in applied mining geology: Association of Geoscientists for International Development (AGID), AGID News, no. 5, p. 28-30.
196. Barnes, J. W., Bailey, E. H., and Nackowski, M. P., 1977, Field training in mining geology: An experiment in the CENTO region: Institute of Mining and Metallurgy Transactions, v. 86, sec. B., 37 p., 11 figs., 2 tables, 5 photos.
197. Fary, R. W., Jr., Compiler, 1977, Proceedings of the CENTO workshop on applications of remote sensing data and methods, Lahore, Pakistan, March 2-8, 1975: U.S. Geological Survey Open-File Report 77-488, ((IR)CEN-10), 258 p., 64 figs.
198. Fary, R. W., Jr., 1979, Foreword in Proceedings CENTO workshop on applications of remote sensing data and methods, Istanbul, Turkey, October 5-12, 1976, p. i-iii.
199. Pohn, H. A., 1979, Copper exploration research in Iran, using Landsat data: in Proceedings, CENTO workshop on applications of remote sensing data and methods, Istanbul, Turkey, October 5-12, 1976, p. 152-169.
200. Ruggles, F. R., 1977, Applications of Landsat-1 data to hydrology and water resources: in Fary, R. W., Jr., 1977, Proceedings, CENTO workshop on applications of remote sensing data and methods, Lahore, Pakistan, March 2-8, 1975.

#### CENTRAL AFRICAN EMPIRE

201. Regan, R. D., 1978, The Bangui magnetic anomaly, Central African Empire, final trip report: U.S. Geological Survey Open-File Report 78-1006, ((IR)CAE-1), 11 p., 10 figs., 2 tables.

#### CENTRAL AND SOUTH AMERICA

202. Carter, W. D., 1975, Evaluation of Landsat-2 (ERTS) images applied to geologic mapping and mineral resources of South America: National Aeronautics and Space Administration, NASA-CR-146624, National Technical Information Service E-76-10250, 44 p.
203. Carter, W. D., 1975, Mineral resource investigations in South America using LANDSAT data: Michigan Environmental Research Institute, International Symposium on Remote Sensing of Environment, 10th, Ann Arbor, Michigan, October 6-10, 1975, Summaries, p. 146.
204. Carter, W. D., 1975, Use of Landsat images in studies of ore deposits of the Andes Mountains, South America: European Geological Society Meeting, Reading, England, (program abstract).

205. Carter, W. D., 1976, Evaluation of Landsat-1 image applications to geologic mapping, structural analysis, and mineral resource inventory of South America with special emphasis on the Andes Mountain region: National Aeronautics and Space Administration NASA-CR-148590, National Technical Information Service E-76-10459.
206. Carter, W. D., 1976, Structural geology and mineral-resources inventory of the Andes Mountains, South America: U.S. Geological Survey Professional Paper 929, p. 92-98.
207. Carter, W. D., and Kowalik, W. S., 1976, Evaluation of Landsat-2 (ERTS) images applied to geologic structures and mineral resources of South America: National Aeronautics and Space Administration, NASA-CR-148591 E76-10461, National Technical Information Service E-76-10460, 34 p.
208. Carter, W. D., Kowalik, W. S., Ballon A., Raul, and Brockmann, C. E., 1977, Mapping Andean salar deposits by Landsat radiance values: Pan American Institute of Geography and History, XI General Assembly, Quito, Ecuador, Aug. 1977, (program abstract).
209. Carter, W. D., Kowalik, W. S., Ballon, A. Raul, and Brockmann, C. E., in press, Mapping Andean salar deposits by Landsat radiance values: U.S. Geological Survey Open-File Report, 45 p.
210. Carter, W. D., Kowalik, W. S., and Brockmann, C. E., 1976, Mapping Andean salars by Landsat radiance values [abs.]: COSPAR, XIX Plenary meeting, Philadelphia, Penna., June 8-19, 1976, Abstract, p. 414.
211. Carter, W. D., and Rinker, J. N., 1976, Structural features related to earthquakes, in Managua, Nicaragua, and Cordoba, Mexico: U.S. Geological Survey Professional Paper 929, p. 123-126.
212. Ericksen, G. E., in press, Metallogenesis in the Andes: Symposium volume Metallogenesis in Latin America.
213. Ericksen, G. E., Chong, D. G., and Vila, G. T., 1976, Lithium resources of salars in the central Andes, in Vine, J. D., ed. Lithium resources and requirements by the year 2000, : U.S. Geological Survey Professional Paper 1005, p. 66-74.
214. Goudarzi, G. H., 1977, Geologic map of South America: U.S. Geological Survey Miscellaneous Field Studies Map MF 868-A, scale 1:15,000,000, (Reprinted in 1979)
215. Goudarzi, G. H., 1977, Map showing bauxite, manganese, and nickel deposits of South America: U.S. Geological Survey Miscellaneous Field Studies Map MF-868-B.
216. Goudarzi, G. H., 1977, Map showing chromium, molybdenum, tin, tungsten, and vanadium deposits of South America: U.S. Geological Survey Miscellaneous Field Studies Map MF 868-F.

217. Goudarzi, G. H., 1977, Map showing copper deposits of South America: U.S. Geological Survey Miscellaneous Field Studies Map MF-868-G.
218. Goudarzi, G. H., 1977, Map showing lead-zinc deposits of South America: U.S. Geological Survey Miscellaneous Field Studies Map MF 868-C.
219. Goudarzi, G. H., 1977, Map showing precious metal deposits of South America: U.S. Geological Survey Miscellaneous Field Studies Map MF 868-D.
220. Goudarzi, G. H., Klemic, Harry, and Cooper, Margaret, 1977, Map showing iron deposits of South America: U.S. Geological Survey Miscellaneous Field Studies Map MF 868-D.
221. Grossling, B. F., 1975, Latin America's petroleum prospects in the energy crisis: U.S. Geological Survey Bulletin 1411, 40 p.
222. Klemic, Harry, and Cooper, Margaret, 1977, Iron ore resources of South America and their utilization: U.S. Geological Survey Open-File Report 77-745, 201 p., 15 figs.
223. Knudson, C. F., in press, Strong-motion network for Latin America: Central American Conference on Earthquake Engineering, Jan. 9-14, 1978, Proc., p. 63-85.
224. Miller, R. L., 1976, Potencial de los minerales industriales en Centro-america: Instituto Centroamericano de Investigacion y Tecnologia Industrial Publicacion Geologicas, no. 5, p. 180-184.
225. Nordin, C. F., Jr., Meade, R. H., Curtis, W. F., Bosio, N. J., and Delaney, B. M., 1979, Particle size of sediments collected from the bed of the Amazon River and its tributaries in May and June 1977: U.S. Geological Survey Open-File Report 79-329, 27 p., 1 fig., 3 tables.
226. Olive, W. W., 1978, Coal deposits of Latin America, in Kottlowski, F. E., Cross, A. T., and Meyerhoff, A. A., Coal resources of the Americas, Selected papers: Geological Society of America Special Paper 179, p. 57-64.
227. Shaffer, G. L., 1977, Statistical data summaries--Mineral industries of South American countries: U.S. Geological Survey Open-File Report, 77-556, 47 p., 12 tables.
228. Smith, H. W., and Miller, R. L., 1976, Basic geology collection for a Latin American university library, and a guide for building the collection: Pan-American Institute of Geography and History, Revista Geofisica No. 4, June 1976, p. 63-137.

## CHILE

229. Douglass, R. C., and Nestell, M. K., 1976, Late Paleozoic Foraminifera from Southern Chile: U.S. Geological Survey Professional Paper 858, 49 p., 18 pls., 18 figs., 16 tables.
230. Ericksen, G. E., 1975, Origin of the Chilean nitrate deposits [abs.]: Geological Society of America Abstracts with Programs, v. 7, no. 7, p. 1068.
231. Ericksen, G. E., in press, Geology and origin of the Chilean nitrate deposits: U.S. Geological Survey Professional Paper, 121 p., 4 figs., 2 tables.
232. Ericksen, G. E., in press, Origin of the nitrate deposits of northern Chile [abs.]: Geological Society of Chile, Symposium, 2nd, August 6-11, 1979, in Arica, II Congreso Geologico Chileno Actas, v. 2, p. C182-C205.
233. Miller, R. L., 1976, Potencial de los minerales industriales en Centroamerica: Instituto Centroamericano de Investigacion y Tecnologia Industrial Publicaciones Geologicas no. 5, p. 180-184.
234. Mrose, M. E., Ericksen, G. E., and Marinenko, J. W., 1971, Crystal chemistry of the calcium iodates in the system  $\text{Ca}(\text{IO}_3)_2 \cdot \text{H}_2\text{O}$  [abs.]: Geological Society of America Abstracts with Programs, v. 3, p. 653.

## CHINA

235. Bally, A. W., Allen, C. R., Geyer, R. B., Hamilton, W. B., Hopson, C. A., Molnar, P. H., Oliver, J. E., Opdyke, N. D., Plafker, G., and Wu, F. T., 1980, Notes on the geology of Tibet and adjacent areas--report of the American Plate Tectonics Delegation to the People's Republic of China: U.S. Geological Survey Open-File Report 80-501, 101 p.
236. Masters, C. D., Girard, O. W., Jr., and Terman, M. J., 1980, A perspective on Chinese petroleum geology: U.S. Geological Survey Open-File Report 80-609, 24 p.
237. Podwysocki, M. H., 1976, An estimate of field-size distributions, Lacie test sites 5092, 5033 and 5039, Anhwei Province, People's Republic of China: Goddard Space Flight Center Document X-923-76-145, 8 p., also National Technical Information Service, N76-27652/6G1.
238. Teng, Ta-Lian, and Wallace, R. E., 1978, Prediction of the Sungpan-Pingwu earthquakes, Szechuan Province, China [abs.]: Earthquake Notes, v. 49, no. 4, p. 43.
239. Terman, M. J., 1976, Sedimentary basins of China and their petroleum potential: Southeast Asia Petroleum Exploration Society Proceedings, v. 3, p. 125-129.

240. Terman, M. J., 1977, Geological constraints on Chinese petroleum development (Summary): in China's energy policies and resources development, Report of a Seminar June 2-3, 1976, U.S.-China Relations Program, Stanford University, Rept. 1, p. 28-32.

#### COLOMBIA

241. Alvarez, A., Rico H., Hector, Vasques, Hernan, Hall, R. B., and Blade, L. V., 1975, Geologic map of the Yarumal quadrangle (H-8), and part of the Ituango quadrangle (H-7), Colombia: U.S. Geological Survey Miscellaneous Investigations Map I-842, scale 1:100,000.
242. Carter, W. D., 1976, Environmental assessment of remote areas of Colombia, South America: U.S. Geological Survey Professional Paper 929, p. 290-292.
243. Cathcart, J. B., 1975, Phosphate fertilizer materials in Colombia--imports, uses, and domestic supplies: U.S. Geological Survey Journal of Research, v. 3, no. 6, p. 659-663.
244. Evans, J. G., 1977, Geological and geochemical reconnaissance in the central Santander massif, Departments of Santander and Norte de Santander, Colombia: U.S. Geological Survey Open-File Report 77-281 ((IR)CO-35), 43 p., 18 figs., 1 table.
245. Feininger, Tomas, Barrero, Dario, Castor, Nestor, Ramirez, Octavio, Lozando, Hernando, and Vesga, Jairo, 1975, Geologic map of eastern Antioquia Department, Colombia, quadrangle I-9, and parts of quadrangles H-9, H-10, I-10, J-9, and J-10: U.S. Geological Survey Miscellaneous Investigations Map I-860, scale 1:100,000.
246. Herd, D. G., Youd, T. L., Meyer, Hansjurgen, Arango C., J. L., Person, W. J., Mendoza, Carlos, in press, Tumaco, Colombia earthquake (M 8) of 12 December 1979: Science.
247. Irving, E. M., 1975, Structural evolution of the northernmost Andes, Colombia: U.S. Geological Survey Professional Paper 846, 47 p., 10 figs., 3 pls.
248. Landis, E. R., 1974, Philosophy and methodology of coal resource evaluation: Seminario Internacional Sobre la utilizacion integral del carbon, 1st, Bogota, Colombia, v. II, March 10-17, 1974, p. 197-205.
249. Maughan, E. K., Zamrano, O., Francisco, Majica G., Pedro, Abozaglo M., Jacob, Pachon P., Fernando, and Duran R., Raul 1979, Paleontologic and stratigraphic relations of phosphate beds in Upper Cretaceous rocks of the Cordillera Oriental, Colombia: U.S. Geological Survey Open-File Report 79-1525, ((IR)CO-39), 97 p., 8 figs., 5 plates.

250. McLaughlin, D. H., and Arce, H. M., 1975, Geologic map of the Zipaquirá quadrangle (K-11), Colombia: U.S. Geological Survey Miscellaneous Investigations Map I-849, scale 1:100,000.
251. Olive, W. W., 1974, A general plan for development of Colombian coal resources: Seminario Internacional sobre la utilización integral del carbon, 1st, Bogota, Colombia, v. II, March 10-17, 1974, p. 187-196.
252. Ward, D. E., Goldsmith, Richard, Cruz B., Jaime, Restrepo, Hernan, and Gomez R., Eduardo, 1977, Geologic map of the Pamplona quadrangle (H-13), Colombia: U.S. Geological Survey Miscellaneous Investigations Map I-1006, scale 1:100,000.
253. Ward, D. E., Goldsmith, Richard, Cruz B., Jaime, Tellez I., N., and Jaramillo C., Luis, 1977, Geologic map of parts of the San Gil and Malaga quadrangles (parts of I-12 and I-13), Colombia: U.S. Geological Survey Miscellaneous Investigations Map I-1007, scale 1:100,000.
254. Ward, D. E., Goldsmith, Richard, Jimeno V., Andres, Cruz B., Jaime, Restrepo, Hernan, and Gomez R., Eduardo, 1977, Geologic map of the Bucaramanga quadrangle (H-12), Colombia: U.S. Geological Survey Miscellaneous Investigations Map I-1005, scale 1:100,000.

#### COOK ISLANDS

255. Dalrymple, G. B., Jarrard, R. D., and Clague, D. A., 1975, K-Ar ages of some volcanic rocks from the Cook and Austral Islands: Geological Society of America Bulletin, v. 86, no. 10, p. 1463-1467.

#### COSTA RICA

256. Castillo M., Rolando, and Krushensky, R. D., 1977, Geologic map of the Abra quadrangle, Costa Rica: U.S. Geological Survey Miscellaneous Investigations Map I-992, scale 1:50,000.
257. Krushensky, R. D., Malavassi V., Enrique, and Castillo M., Rolando, 1976, Geology of central Costa Rica and its implications in the geologic history of the region: U.S. Geological Survey Journal of Research, v. 4, no. 2, p. 127-134.
258. Krushensky, R. D., Malavassi V., Enrique, and Castillo M., Rolando, 1976, Reconnaissance geologic map and cross sections of Central Costa Rica: U.S. Geological Survey Miscellaneous Investigations Map I-899, scale 1:100,000.

#### CUBA

259. Davis, W. E., Jackson, W. H., and Richter, D. H., 1980, Exploration for chromite deposits in the Camaguey District, Camaguey Province, Cuba: U.S. Geological Survey Open-File Report 80-1061, 148 p.

CYPRUS

260. George, R. P., Jr., 1978, Structural petrology of the Olympus ultramafic complex in the Troodos ophiolite, Cyprus: Geological Society of America Bulletin, v. 89, p. 845-865

DOMINICAN REPUBLIC

261. Vaughn, T. W., Cooke, W., Condit, D. D., Ross, C. P., Woodring, W. P., and Calkins, F. C., 1921, Geological reconnaissance of the Dominican Republic: Dominican Republic Geological Survey Memoir, v. 1, 268 p., 23 pls. Prepared by the U.S. Geological Survey, Gibson Bros. Press, Washington, D. C., 1921.

ECUADOR

262. Feininger, Tomas, and Silberman, M. L., in press, K-Ar geochronology of basement rocks on the northern flank of the Huancabamba deflection, Ecuador: Journal of Geology.
263. Friedman, J. D., and Heiken, Grant, in press, Observations of volcanoes and volcanic landforms, with a section on Summit eruption of Fernandina Caldera, Galapagos Islands, Ecuador: National Aeronautics and Space Administration Special Publication.
264. Miller, C. D., Mullineaux, D. R., and Hall, Minard, 1978, Reconnaissance map of potential volcanic hazards from Cotopaxi Volcano, Ecuador: U.S. Geological Survey Miscellaneous Investigations Map I-1072, scale 1:100,000.
265. Mullineaux, D. R., Miller, C. D., and Harlow, David, 1976, Reconnaissance study of volcanic hazards from Cotopaxi Volcano, Ecuador: U.S. Geological Survey Open-File Report 76-799, ((IR)EC-5), 20 p., 1 fig.
266. Simkin, T., and Krueger, A. F., 1977, Skylab 4 Observations of volcanoes, with a section on Summit eruption of Fernandino Caldera, Galapagos Islands, Ecuador: National Aeronautics and Space Administration pub. in Wilmarth, V. R., Ed., Skylab explores the earth: NASA Lyndon B. Johnson Space Center, NASA SP-380, p. 137-173.

EGYPT

267. Clark, F. E., 1979, The corrosive well waters of Egypt's Western Desert: U.S. Geological Survey Water-Supply Paper 1757-0, 55 p.
268. Egyptian Geological Survey and Mining Authority, 1978, Geologic map of the Aswan quadrangle, Egypt: Egyptian Geological Survey and Mining Authority Map, scale 1:500,000 (compiled under direction of the U.S. Geological Survey).

269. Egyptian Geological Survey and Mining Authority, 1978, Geologic map of the Qena quadrangle, Egypt: Egyptian Geological Survey and Mining Authority Map, scale 1:500,000 (compiled under direction of the U.S. Geological Survey).
270. El-Baz, Farouk, Breed, C. S., Grolier, M. J., and McCauley, J. F., in press, Analogs of Martian eolian features in the western desert of Egypt: Journal of Geophysical Research.
271. Glenn, C. R., and Denman, J. M., 1980, Geological literature on Egypt, 1900 to 1978: U.S. Geological Survey Open-File Report 80-930, ((IR)EG-11), 218 p.
272. Parkinson, H. L., and Worts, G. F., Jr., 1977, A brief evaluation of ground-water and soils potential for irrigated agriculture, Western Desert of Egypt: U.S. Geological Survey Open-File Report 77-777, 51 p.
273. U.S. Geological Survey, 1979, Summary of the energy resources of Egypt, in Joint Egypt/United States report on Egypt/United States cooperative energy assessment, v. 2 of 5 vols., Annex 1: National Technical Information Service, DOE/IA-0002/02, 184 p.; [U.S. Geological Survey Open-File Report 79-1141, ((IR)EG-5), 209 p., 21 figs., 7 tables].

#### EL SALVADOR

274. Hoblitt, R. P., in press, Volcanic events at a classic Mayan archaeological site near Joya de Cerén, El Salvador: Pennsylvania State University Occasional Publications in Anthropology.
275. Jordan, J. N., and Martínez, Maximiliano, in press, Seismic history of El Salvador (abs.): Engineering Seismology in Central America, 1978, San Salvador.

#### ETHIOPIA

276. Gill, H. E., and Endeshaw, Abebaw, 1973, Geological site investigations for potential water supply for the towns of Axum, Jigjiga, Kobo, and Danglia, Ethiopia: Ethiopia Geological Survey, Hydrology Notes, 1973/2, 15 p., maps, figures (unnumbered).

#### FRANCE

277. Varet, J., Gerard, A., and Duffield, W., 1979, Geologic and geophysical studies in the Monte Dore geothermal area, France: Geothermal Resources Council Trans., v. 3, p. 741-743, September 1979.

#### FRENCH WEST INDIES

278. Fiske, R. S., 1976, Threat of eruption at La Soufriere, [Guadeloupe]: U.S. Geological Survey Earthquake Information Bulletin, v. 8, no. 6, p. 27-29.



#### GABON

279. Moxham, R. M., 1976, Gamma-ray spectrometer measurement of  $^{238}\text{U}/^{235}\text{U}$  in uranium ore from a natural reactor at Oklo, Gabon: U.S. Geological Survey Journal of Research, v. 4, no. 5, p. 589-592.

#### GERMANY, FEDERAL REPUBLIC OF

280. Nichols, F. H., 1976, Dynamics and production of *Pectinaria koreni* (Malmgren) in Kiel Bay, West Germany: European Symposium on Marine Biology, 11th, 11 p., 5 figs.
281. Wedepohl, K. H., Delevaux, M. H., and Doe, B. R., 1978, Potential source of lead in the Permian Kupferschiefer bed of Europe and some selected Paleozoic mineral deposits in the Federal Republic of Germany: Contributions to Mineralogy and Petrology, v. 65, p. 273-281.

#### GREECE

282. Carver, David, and Bollinger, G. A., in press, Aftershocks of the June 20, 1978 Greece earthquake: A multimode faulting sequence: Tectonophysics.
283. Carver, David, and Henrisey, Ronald, 1978, Preliminary report on the aftershocks of the June 20, 1978, Thessaloniki, Greece, earthquake: U.S. Geological Survey Open-File Report 78-1099, 11 p., 4 figs., 2 tables.
284. Maley, R. P., Bufe, C. G., Yerkes, R. F., Carver, D. L., and Henrisey, Ronald, 1979, The May-July 1978 earthquake sequence near Thessaloniki, Greece: in Earthquake Research Institute, Special Earthquake Newsletter.
285. Yerkes, R. F., and Bufe, C. G., 1979, Geologic seismologic aspects of the May-July 1978 earthquakes, Langadha-Volvi Lakes area, northern Greece: Seismological Society of America Bulletin.

#### GREENLAND

286. Hinkley, T. K., 1978, Natural and polluted dusts in snowpacks: Alaska, California, Greenland, Antarctica: Geological Society of America, Abstracts with Programs, p. 421.
287. Page, N. J., Myers, J. S., Haffty, Joseph, Simon, F. O., and Aruscavage, P. J., in press, Platinum, palladium, and rhodium in the Fiskenaasset complex, southwestern Greenland: Economic Geology.
288. Valenza, Mariano, and Sato, Motoaki, 1978, Electrochemical determination of oxygen fugacities of the Skaergaard intrusion, East Greenland: EOS, American Geophysical Union Transactions, v. 59, p. 398-399.

289. Woo, C. C., and Commeau, R. F., 1976, Scanning-electron-microscope examination of sand-grain particles from an ice core from Camp Century, Northwest Greenland [abs.]: Geological Society of America Abstracts with Programs, v. 8, no. 6, Sept. 1976, p. 1176.

#### GUATEMALA

290. Bucknam, R. C., 1977, Surface faulting and displacements of the 1976 Guatemala earthquake: U.S. Geological Survey Earthquake Information Bulletin, v. 9, no. 2, p. 12-17.
291. Espinosa, A. F., 1977, Intensity distribution of the Guatemala earthquake: U.S. Geological Survey Earthquake Information Bulletin, v. 9, no. 2., p. 7-11.
292. Espinosa, A. F., 1977, The Guatemala earthquake of February 4, 1976: U.S. Geological Survey Earthquake Information Bulletin, v. 9, no. 2, p. 4-6.
293. Espinosa, A. F., ed., 1977, The Guatemalan earthquake of February 4, 1976, a preliminary report: U.S. Geological Survey Professional Paper 1002, 90 p., 76 figs., 11 tables.
294. Harp, E. L., Wieczorek, G. F., Wilson, R. C., and Fleming, R. W., 1976, Seismic-induced landslides from the February 4, 1976, Guatemala earthquake, [abs.]: Geological Society of America Abstracts with Programs, v. 8, no. 6, p. 905.
295. Harp, E. L., Wilson, R. C., and Wieczorek, G. F., 1981, Landslides from the February 4, 1976, Guatemala earthquake: U.S. Geological Survey Professional Paper 1204-A, 35 p., 2 pls.
296. Hoose, S. N., and Wilson, R. C., 1976, Liquefaction-caused ground failure during the Guatemala earthquake of February 4, 1976 [abs.]: Geological Society of America Abstracts with Programs, v. 8, no. 6, p. 925.
297. Hoose, S. N., Wilson, R. C., and Rosenfeld, J. H., 1978, Liquefaction-caused ground failure during the February 4, 1976, Guatemala earthquake: in International Symposium on the Feb. 4, 1976, Guatemalan earthquake and Reconstruction Process Proceedings, v. 2.
298. Ladd, J. W., Ibrahim, A. K., McMillen, K. J., Latham, G. V., and Von Huene, R. E., 1978, Structures and tectonics associated with the Middle America trench offshore Guatemala: Geological Society of America, Abstracts with Programs, p. 439.
299. Langer, C. J., Bollinger, G. A., and Henrisey, R. G., 1978, Aftershocks and secondary faulting associated with the February 4, 1976, Guatemala earthquake: in International Symposium on the Feb. 4, 1976, Guatemalan earthquake and the Reconstruction Process, Proceedings, v. 2.

300. Page, R. A., Ed., 1976, Interim report on the Guatemalan earthquake of Feb. 4, 1976 and the activities of the U.S. Geological Survey earthquake investigation team: U.S. Geological Survey Open-File Report 76-295, 31 p., 4 figs.
301. Plafker, George, 1977, The Guatemala earthquake and Caribbean plate tectonics: U.S. Geological Survey Earthquake Information Bulletin, v. 9, no. 2 p. 18-20.
302. Plafker, George, Sharp, R. V., Bucknam, R. C., Bonis, S. B., and Bonilla, M. G., 1976, Tectonic implications of surface faulting associated with the 4 February 1976 Guatemala earthquake [abs.]: Geological Society of America Abstracts with Programs, v. 8, no. 6, p. 1051.
303. Rose, W. I., Jr., Cadle, R. D., Heidt, L. E., Friedman, Irving, Lazrus, A. L., and Huebert, B. J., 1980, Gas and hydrogen isotopic analyses of volcanic eruption clouds in Guatemala sampled by aircraft: Volcanology and Geothermal Research Journal, v. 7, p. 1-10.
304. Schwartz, D. P., 1976, The Motagua fault zone, Guatemala [abs.]: Geological Society of America Abstracts with Programs, v. 8, no. 6, p. 1092.
305. White, R. A., and Harlow, D. H., 1979, Preliminary catalog of aftershocks of the Guatemala earthquake of February 4, 1976--from the area between Guatemala City and Lake Atitlan: U.S. Geological Survey Open-File Report 79-864.
306. White, R. A., and Harlow, D. H., 1980, Preliminary catalog of seismicity from south-central Guatemala, July 1 through December 31, 1976: U.S. Geological Survey Open-File Report 80-83, 39 p.
307. White, R. A., Sanchez, Eddy, Cifuentes, I. L., and Harlow, D. H., 1980, Preliminary report to the government of Guatemala on the ongoing earthquake swarm in the Department of Santa Rosa, Guatemala [translation from original Spanish]: U.S. Geological Survey Open-File Report 80-800.

#### GUYANA

308. Milton, Charles, Appleman, D. E., Appleman, M. H., Chao, E. C. T., Cuttitta, Frank, Dinnin, J. I., Dwornik, E. J., Ingram, B. L., and Rose, H. J., Jr., 1976, Merumite--A complex assemblage of chromium minerals from Guyana: U.S. Geological Survey Professional Paper 887, 29 p., 6 pl.

#### HAITI

309. Taylor, G. C. Jr., 1949, A summary of the results of a program of ground-water studies in Haiti from September 1948 through March 1949: U.S. Geological Survey Open-File Report, 8 p.

310. United Nations, 1976, Ground water in the Western Hemisphere [Haiti]: in U.N. Department of Economic and Social Affairs, Natural Resources/Water Series, no. 4, Doc. ST/ESA/35, p. 148-155.

#### ICELAND

311. Friedman, J. D., Preble, D. M., and Jakobsson, Sveinn, 1976, Geothermal flux through palagonitized tephra, Surtsey, Iceland. 1. The Surtsey temperature data-relay experiment via Landsat-1: U.S. Geological Survey Journal of Research, v. 4, no. 6, p. 645-660.
312. Sun, S. S., Tatsumoto, M., and Schilling, J. G., 1975, Mantle plume mixing along the Reykjanes Ridge Axis: Lead isotopic evidence: Science, v. 190, p. 143-147.
313. U.S. Geological Survey, 1976, Vatnajokull, Iceland (Fall scene): U.S. Geological Survey Landsat image format series, N6359W01723, experimental printing, scale 1:500,000.
314. U.S. Geological Survey, 1977, Vatnajokull, Iceland (Winter scene): U.S. Geological Survey Landsat image format series, N6359W01723, experimental printing, scale 1:500,000.
315. Williams, R. S., Jr., 1976, Diversion of lava by water cooling during the eruption of Eldfell Volcano, Heimaey, Iceland [abs.]: Geological Society of America Abstracts with Programs, v. 8, no. 2, p. 300-301.
316. Williams, R. S., Jr., 1976, Dynamic environmental phenomena in southwestern Iceland: U.S. Geological Survey Professional Paper 929, p. 109-112.
317. Williams, R. S., Jr., 1976, Monitoring of natural and land resources of Iceland [abs.]: Association of American Geographers, Middle Atlantic Division, 1976 Annual meeting, Fredericksburg, Va., Abstracts, p. 23.
318. Williams, R. S., Jr., 1976, Vatnajokull icecap, Iceland: in U.S. Geological Survey Professional Paper 929, p. 188-193.
319. Williams, R. S., Jr., 1978, Geomorphic processes Iceland and on Mars: A comparative appraisal from orbital images [abs.]: Geological Society of America Abstracts with Programs, v. 10, no. 7, p. 517.
320. Williams, R. S., Jr., 1978, Landsat image of dynamic marine phenomena off the southwest coast of Iceland [abs.]: EOS, American Geophysical Union, Trans., v. 59, no. 4, p. 301.
321. Williams, R. S., Jr., 1978, Satellite geological and geophysical remote sensing of Iceland: Type III final report to NASA, Goddard Space Flight Center, Greenbelt, Md., ERTS-1 Experiment No. 9651, 1 Jan. 1978, 64 p.

322. Williams, R. S., Jr., 1979, Iceland-satellite monitoring of changes of glaciers of Iceland: in Vivien, Robert, ed., *Glaciological Field Stations pt. 1, Glaciological Data: World Data Center A for Glaciology (Snow and Ice)*, Report GD-4, p. 72-77.
323. Williams, R. S., Jr., 1979, Regional geologic mapping using Landsat 3 return beam vidicon images: Examples for Iceland and Cape Cod, Massachusetts: [abs.], *Geological Society of America, Abstracts with Programs*, v. 11, no. 7, p. 541.
324. Williams, R. S., Jr., Bodvarsson, Agust, Rist, Sigurjon, Saemundsson, Kristjan, and Thorarinsson, Sigurdur, 1975, *Glaciological studies in Iceland with ERTS-1 imagery* [abs.]: *Journal of Glaciology*, v. 15, no. 73, p. 465-466.
325. Williams, R. S., Jr., Thorarinsson, Sigurdur, Bjornsson, Helgi, and Gudmundsson, Bragi, 1979, Dynamics of Icelandic ice caps and glaciers [abs.]: *Journal of Glaciology*, v. 24, no. 90, p. 505-507.
326. Williams, R. S., Jr., Mecklenburg, T. N., Abrams, M. J., and Gudmundsson, Bragi, 1977, Conventional vs. computer-enhanced Landsat image maps of Vatnajokull, Iceland [abs.]: *Geological Society of America, Abstracts with Programs*, v. 9, no. 7, p. 1228-1229.
327. Williams, R. S., Jr., and Moore, J. G., 1976, Iceland chills a lava flow, in Tank, Ronald, ed., *Focus on environmental geology - A collection of case histories and readings from original sources* 2nd edition; New York, Oxford University Press., p. 49-58.
328. Williams, R. S., Jr., and Moore, J. G., 1976, Man against volcano: The eruption on Heimaey, Vestmann Islands, Iceland: U.S. Geological Survey Scientific Leaflet, INF-75-22, 20 p.

#### INDIA

329. Colvocoresses, A. P., 1979, Depth determination of Colvocoresses Reef, Indian Ocean (EC 68 Landsat): U.S. Geological Survey Open-File Report 79-726, 5 p., 1 fig., 1 map.
330. Khattri, K. N., Rogers, A. M., and Perkins, D. M., in press, Seismic risk map of Koyna-Bombay-Ahmedabad area, India: Symposium on Earthquake Engineering, 6th, Roorki, India, October, 1978, Proc.
331. Khattri, K. N., Rogers, A. M., and Perkins, D. M., in press, Stochastic estimates of seismic hazard in the Indian region: International Union of Geology and Geophysics, 17th General Assembly, Canberra, Australia, 1979.
332. Morgan, J. W., in press, Siderophile and volatile trace elements in high-magnesium australites and glasses from Lonar Crater, India: Lunar Science Conference, 9th, Houston, Texas, March 13, 1978, 3 p.

333. Sohn, I. G., and Chatterjee, S., 1979, Freshwater ostracodes from Late Triassic coprolites in India: *Journal of Paleontology*, v. 53, no. 3, p. 578-586.

#### INDONESIA

334. Condon, W. H., Pardyanto, Liek, and Ketner, K. B., 1975, Geologic map of the Banjarnegara and Pekalongan quadrangles, Indonesia: Indonesia Geological Survey Map, scale 1:100,000.
335. Hamilton, W. B., 1977, Subduction in the Indonesian region: *American Geophysical Union, Maurice Ewing Sec.*, v. 1, p. 15-31.
336. Hamilton, W. B., 1978, Tectonic map of the Indonesian region: U.S. Geological Survey Miscellaneous Investigations Map I-875-D, scale 1:5,000,000.
337. Hamilton, W. B., 1979, Tectonics of the Indonesian Region: U.S. Geological Survey Professional Paper 1078, 345 p.
338. Jones, Mel, Reed, B. L., Doe, B. R., and Lanphere, M. A., 1977, Age of tin mineralization and plumbotectonics, Belitung, Indonesia: *Economic Geology*, v. 72, no. 5, p. 745-752.
339. Ketner, K. B., Kastowo, Modjo Subroto, Naeser, C. W., Obradovich, J. D., Robinson, Keith, Suptandar, Tatan, and Wikarno, 1976, Pre-Eocene rocks of Java, Indonesia: *U.S. Geological Survey Journal of Research*, v. 4, no. 5, p. 605-614
340. Leo, G. W., Hedge, C. E., and Marvin, R. F., 1980, Geochemistry, strontium isotope data, and potassium-argon ages of the andesite-rhyolite association in the Padang area, West Sumatra: *Journal of Volcanology and Geothermal Research*, v. 7, p. 139-156.
341. Richards, P. W., 1976, Review of Geologic map of Indonesia--Ujung Pandang sheet, by Rab Sukanto, Geological Survey of Indonesia: *Geotimes*, v. 21, no. 6, p. 25-26.
342. Taraniuk, J. V., Reynolds, C. D., Sheehan, C. A., and Carter, W. D., 1978, Targeting exploration for nickel laterites in Indonesia with Landsat data: *International Symposium on Remote Sensing of Environment*, 12th, Proceedings, v. 11, p. 1037-1051. (Abstract p. 124).
343. Thaden, R. E., Sumadirdja, Harli, and Richards, P. W., 1975, Geologic map of the Magelang and Semarang quadrangles, Java: Indonesia Geological Survey Map, scale 1:100,000.
344. Untung, M., and Hanna, W. F., 1975, Geophysical investigations of coastal magnetite sands at Meleman, Lumajang, East Java: Indonesia Geological Survey Technical Publication, Geophysical series, no. 5, 39 p., 31 figs., 2 tables.

## IRAN

345. Bailey, E. H., Barnes, J. W., and Nackowski, M. P., 1978, Geology and ore deposits of the Kushk zinc-lead mine area, Iran: CENTO publication, in Report of the Fifth (CENTO) field training program in geologic mapping techniques, (CENTO), Ankara, Turkey, p. 1-66.
346. Krinsley, D. B., 1975, Sabzevar Basin [Iran], in Neal, E. T., ed., Playas and dried lakes: Dowden, Hutchinson, and Ross, Inc., Benchmark Papers in Geology, v. 20, p. 196-211.
347. Milton, D. J., 1978, Qal'eh Hasan Ali Maars, central Iran: Bulletin Volcanologique, v. 40, no. 3, p. 201-208.
348. Pohn, H. A., 1980, Copper exploration research in Iran, using Landsat data: in Central Treaty Organization Symposium, Istanbul, Turkey, October 5-12, 1976, p. 152-169.
349. Reinemund, J. A., 1972, Mineral exploration and development, in Technical cooperation with Iran: A case study of opportunities and policy implications for the United States: U.S. Department of State, Agency for International Development Report, p. 59-74.
350. Sharp, R. V., Akashen, B., Eshghi, I., and Orsini, N., 1979, The Tabas, Iran, earthquake of September 16, 1978: Observations on surface faulting [abs.]: Seismological Society of America, Annual meeting, 1979, Golden, Colorado.

## IRELAND

351. Drew, David, and Back, William, 1979, Effect of land-use practices on ground-water resources in karst regions of western Ireland and Yucatan, Mexico [abs.]: Geological Society of America Abstracts with Programs, v. 11, no. 7, p. 415.
352. Radtke, A. D., Russell, M. J., and Dickson, F. W., 1978, Relationships between minor elements in Paleozoic sedimentary rocks and distribution and chemical composition of base-metal deposits in Ireland: Geological Society of America Abstracts with Programs, p. 475.

## ISRAEL

353. Milton, Charles, Toulmin, Priestley, Dwornik, E. J., and Finkelman, R. B., 1976, Slag from ancient copper smelter, Timna, Israel: Historical Metallurgy, v. 10, no. 1, p. 24-33.

## ITALY

354. Cataldi, R., Lazzarotto, A., Muffler, Patrick, Squarci, R., and Stefani, G., 1978, Assessment of geothermal potential of central and southern Tuscany [Italy]: Geothermics, 61 p., 18 figs.

355. Cunningham, C. G., and Naeser, C. W., 1975, The Italian Mountain Intrusive Complex: U.S. Geological Survey Bulletin 1405-A, p. A27-A28.
356. D'Amore, Franco, and Truesdell, A. H., in press, Models for steam chemistry at Lardarello, Italy, and The Geysers, California: Proceedings Geothermal Reservoir Engineering meeting, 5th annual, Stanford.
357. Desmons, Jacqueline, and O'Neil, J. R., 1978, Oxygen and hydrogen isotopic compositions of eclogites and associated rocks from the eastern Seisia zone, (Western Alps, Italy): Contributions to Mineralogy and Petrology, v. 67, p. 79-85.
358. Nilsen, T. H., and Abbate, Ernesto, 1976, The Gottero Sandstone, a Late Cretaceous and Paleocene deep-sea fan complex in the Ligurian Appennines, northern Italy [abs.]: Geological Society of America Abstracts with Programs, v. 8, no. 6, p. 1028.
359. Truesdell, A. H., and Nehring, N. L., in press, Gases and water isotopes in a geochemical section across the Larderello, Italy, geothermal field: Pure and Applied Science.

#### JAPAN

360. Ando, Masataka, 1975, Long-duration faulting in the 1946 Nankaido earthquake [Japan]: EOS, American Geophysical Union Transactions, v. 56, no. 12, p. 1067.
361. Ando, Masataka, Matsuda, Tokihiko, and Ota, Yoko, 1976, Recurrence time and fault mechanism of large earthquakes in the southern Kanto district, Japan, as deduced from coastal terrace data [abs.]: Geological Society of America, meeting November 1976.
362. Barton, P. B., Jr., 1978, Some ore textures involving sphalerite from the Furutobe mine, Akita Prefecture, Japan: Mining Geology, v. 28, p. 293-300.
363. Doe, B. R., 1978, Status of lead isotope studies of Japan: Mining Geology, (Japan), v. 28, p. 277-279.
364. Engdahl, E. R., Umino, N., and Takagi, A., 1979, The 1978 Miyagi-Ken-Okii earthquake of the coast of northeastern Japan [abs.]: Seismological Society of America, Annual meeting, Golden, Colorado, March 1979.
365. Friedman, J. D., Heiken, Grant, Randerson, Darryl, and McKay, D. S., 1976, Observations of eruption clouds from Sakura-zima volcano, Kyushu, Japan, from Skylab 3 and 4: Journal of Volcanic and Geothermal Research, v. 1, no. 4, p. 305-329.
366. Harp, E. L., in press, Seismic-induced landslides from the June 12, 1978 Miyagi-Ken-Okii earthquake, Japan: Report of the United States/Japan Council of Natural Resources.



367. Keefer, D. K., in press, Liquefaction and damage to dikes caused by the Off-Miyagi-Prefecture earthquake of June 12, 1978: Chapter in Earthquake Engineering Research Institute reconnaissance report and chapter in U.S.-Japan Cooperative Program in Natural Resources special report on the Off-Miyagi Prefecture earthquake.
368. Matsuda, Tokihiko, Ota, Yoko, Ando, Masataka, and Tonekura, Nobuyuki, 1978, Fault mechanism and recurrence time of major earthquakes in southern Kanto district, Japan, as deduced from coastal terrace data: Geological Society of America Bulletin, v. 89, no. 11, p. 1610-1618.
369. Moore, G. W., and Fujioka, Kantaro, in press, Age and origin of dacite boulder conglomerate anomalously near the Japan Trench: Deep Sea Drilling Project, v. 56-57.
370. Wentworth, C. M., in press, The tectonic and geologic setting of the June 12, 1978, Miyagi-Ken-Oki earthquake, Japan: Special volume, the United States/Japan Cooperative Program on Natural Resources (UJNR).

#### JORDAN

371. Berlin, G. L., Chavez, Pat, Jr., Grow, T. E., and Soderblom, L. A., 1977, Preliminary geologic analysis of southwest Jordan from computer-enhanced Landsat-I image data: Proceedings American Society of Photogrammetry Meeting, Feb. 1976, Falls Church VA., p. 545-563.
372. Brown, G. F., and Huffman, A. C., 1976, An interpretation of the Jordan Rift Valley, in Williams, R. S., Jr., and Carter, W. D., Eds. ERTS-1, New Window On Our Planet: U.S. Geological Survey Professional Paper 929, p. 53-55.
373. McKelvey, V. E., 1979, Investigations needed to stimulate the development of Jordan's mineral resources: U.S. Geological Survey Open-File Report 79-1569, ((IR)JO-2), 169 p.
374. Sauer, S. P., 1978, Recent and projected changes in Dead Sea level and effects on mineral production from the Sea (Jordan): U.S. Geological Survey Open-File Report 78-176, 43 p., 5 figs., 1 table.

#### KAMPUCHEA

375. Rasmussen, W. C., and Bradford, G. M., 1977, Ground-water resources of Cambodia: U.S. Geological Survey Water-Supply Paper 1608-P, 122 p., 3 pl.

#### KENYA

376. Hillhouse, J. W., Ndombi, J. W. M., Cox, A., Brock, A., and Isaac, G. L., 1977, Paleomagnetic stratigraphy of the Koobi Fora Formation, East Lake Turkana (formerly L. Rudolf), Kenya: Additional results: Nature, v. 265, p. 411-415.

377. Swarzenski, W. V., and Mundorff, M. J., 1977, Geohydrology of North Eastern Province, Kenya: U.S. Geological Survey Water-Supply Paper 1757-N, 68 p., 5 pls.
378. Swarzenski, W. V., and Wanyeki, Simon, 1976, Ground-water exploration in northeastern Kenya: U.S. Geological Survey Open-File Report 76-583, 14 p., 1 pl.

#### KOREA

379. Bergin, M. J., 1979, Preliminary report on the energy resource position of the Republic of Korea: U.S. Geological Survey Open-File Report 79-1438, ((IR)KO-6), 8 p., 1 fig.
380. Garrison, R. E., Mack, L. E., Lee, Y. G., and Chun, H. Y., 1979, Petrology, sedimentology, and diagenesis of Miocene diatomaceous and opal-CT mudstones in the Pohang area, Korea: Geological Society of Korea Journal, v. 15, no. 3, p. 229-252.

#### KUWAIT

381. Grolier, M. J., 1977, Interpretation of Landsat images; Kuwait (preliminary report): U.S. Geological Survey Open-File Report 77-299, ((IR)KU-1), 2 p., 1 fig.
382. Thomas, H. E., 1975, Water resources program of Kuwait: U.S. Geological Survey Open-File Report 75-630, 21 p.

#### LIBERIA

383. Brock, M. R., Chidester, A. H., and Baker, M. W. G., 1977, Geologic map of the Harper quadrangle, Liberia: U.S. Geological Survey Miscellaneous Investigations Map I-780-D, scale 1:250,000.
384. Coonrad, W. L., 1979, Mineral map of the Bopolu quadrangle, Liberia: U.S. Geological Survey Open-File Report 79-1516, ((IR)LI-61E), scale 1:250,000.
385. Dalrymple, G. B., Gromme, C. S., and White, R. W., 1975, Potassium-argon age and paleomagnetism of diabase dikes in Liberia: Initiation of central Atlantic rifting: Geological Society of America Bulletin, v. 86, no. 3, p. 399-411.
386. Force, E. R., and Beikman, H. M., 1977, Geologic map of the Zwedru quadrangle, Liberia: U.S. Geological Survey Miscellaneous Investigations Map I-777-D, scale 1:250,000.
387. Force, E. R., and Berge, J. W., 1977, Geologic map of the Sanokole quadrangle, Liberia: U.S. Geological Survey Miscellaneous Investigations Map I-774-D, scale 1:250,000.

388. Force, E. R., and Dunbar, J. D. N., 1977, Geologic map of the Gbanka quadrangle, Liberia: U.S. Geological Survey Miscellaneous Investigations Map I-776-D, scale 1:250,000.
389. Hedge, C. E., Marvin, R. F., and Naeser, C. W., 1975, Age provinces of the basement rocks of Liberia: U.S. Geological Survey Journal of Research, v. 3, no. 4, p. 425-429.
390. Rosenblum, Sam, and Srivastava, S. P., 1979, The Bambuta phosphate deposit, Liberia: U.S. Geological Survey Bulletin 1480.
391. Sass, J. H., and Behrendt, J. C., in press, Heat flow from the Liberian Precambrian shield: Journal of Geophysical Research.
392. Seitz, J. F., 1977, Geologic map of the Voinjama quadrangle, Liberia: U.S. Geological Survey Miscellaneous Investigations Map I-771-D, scale 1:250,000.
393. Seitz, J. F., 1977, Geologic map of Zorzor quadrangle, Liberia: U.S. Geological Survey Miscellaneous Investigations Map I-773-D, scale 1:250,000.
394. Thorman, C. H., 1976, The implication of klippen and a new sedimentary unit at Gibi Mountain, Liberia, West Africa, on the Pan African-Liberian age province boundary problem: Geological Society of America Bulletin, v. 87, no. 6, p. 851-856.
395. Thorman, C. H., 1977, Geologic map of the Monrovia quadrangle, Liberia: U.S. Geological Survey Miscellaneous Investigations Map I-775-D, scale 1:250,000.
396. Tysdal, R. G., 1977, Geologic map of the Buchanan quadrangle, Liberia: U.S. Geological Survey Miscellaneous Investigations Map I-778-D, scale 1:250,000.
397. Tysdal, R. G., 1977, Geologic map of the Juazohn quadrangle, Liberia: U.S. Geological Survey Miscellaneous Investigations Map I-779-D, scale 1:250,000.
398. Tysdal, R. G., 1978, Geology of Buchanan quadrangle, Liberia: U.S. Geological Survey Bulletin 1449, 31 p., 3 figs.
399. Tysdal, R. G., 1978, Geology of the Juazohn quadrangle, Liberia: U.S. Geological Survey Bulletin 1448, 39 p., 3 figs.
400. Wallace, R. M., 1977, Geologic map of the Bopolu quadrangle, Liberia: U.S. Geological Survey Miscellaneous Investigations Map I-772-D, scale 1:250,000.

#### LIBYA

401. Conant, L. C., and Goudarzi, G. H., 1976, Stratigraphic and tectonic framework of Libya, in King, R. E., compiler, Geology and oil fields of Libya, Algeria, and Tunisia: Tulsa, American Association of Petroleum Geologists, 222 p.

402. Goudarzi, G. H., 1975, Nonmetallic mineral resources: Saline deposits, silica sand, sulfur, and trona [Libya], in Neal, E. T., Ed., Playas and dried lakes: Dowden, Hutchinson, and Ross, Inc., Benchmark Papers in Geology, v. 20, p. 268-277.
403. Goudarzi, G. H., in press, Structure--Libya: in Symposium on geology of Libya, 2nd, Tripoli, September 1978, Proc.
404. Goudarzi, G. H., and Smith, J. P., 1978, Preliminary structure-contour map of the Libyan Arab Republic and adjacent areas: U.S. Geological Survey Miscellaneous Investigations Map I-350-C, scale 1:2,000,000.

MEXICO

405. Allcott, G. H., VanTrump, George, Jr., Lee-Moreno, J. L., and Gomez, Arturo, 1977, Map showing distribution pattern of lead from samples of the non-magnetic fraction of heavy-mineral concentrates, northern Sonora, Mexico: U.S. Geological Survey Open-File Map 77-333, scale 1:250,000.
406. Allcott, G. H., VanTrump, George, Jr., Lee-Moreno, J. L., and Gomez, Arturo, 1977, Map showing distribution pattern of tungsten from samples of the nonmagnetic fraction of heavy-mineral concentrates, northern Sonora, Mexico: U.S. Geological Survey Open-File Map 77-334, scale 1:250,000.
407. Allcott, G. H., VanTrump, George, Jr., Lee-Moreno, J. L., and Gomez, Arturo, 1977, Map showing distribution pattern of zinc from samples of -80 mesh stream sediment, northern Sonora, Mexico: U.S. Geological Survey Open-File Map 77-337, scale 1:250,000.
408. Back, William, Hanshaw, B. B., Pyle, T. E., and Weidie, A. E., 1976, Hydrologic study of Caleta Xel Ha, Quintana Roo, Mexico, in Weidie, A. E., ed., Guidebook of the Yucatan: New Orleans Geological Society, p. 244-258.
409. Back, William, and Lesser, J. M., 1977, Chemical constraints on ground-water management in the Yucatan Peninsula, Mexico: International Association of Hydrologists Memorial, v. XIII, pt.1, p. G18-G29.
410. Back, William, Lesser, J. M., and Hanshaw, B. B., 1977, Structural and stratigraphic occurrence of "Bad Water" in Coahuila, Mexico [abs.]: Geological Society of America, Abstracts with Programs, p. 885.
411. Chaffie, M. A., Lee-Moreno, J. L., Caire, L. F., Mosier, E. L., and Frisken, J. G., 1976, Results of geochemical investigation comparing samples of stream sediment, panned concentrate, and vegetation in vicinity of the Caridad porphyry copper deposit, northern Sonora, Mexico: U.S. Geological Survey Open-File Report 76-559, 16 p.
412. Cserna, Zoltan de, Delavaux, M. H., and Harris, D. C., 1977, Datos isotopicos, mineralogicos, y modelo genetico propuesto para los yacimientos de plomo, zinc, y plata de Fresnillo, Zacatecas [Mexico]: Universidad Nacional Autonoma de Mexico Instituto de Geologia Revista, v. 1, no. 1, p. 110-116.

413. Fournier, R. O., 1976, Estimates of temperatures and salinities of aquifers in the geothermal system at Cerro Prieto, Mexico, from hot-spring data [abs.]: Geological Society of America Abstracts with Programs, v. 8, no. 6, p. 873.
414. Fries, Carl, Jr., Ross, C. S., and Obregon-Pérez, Alberto, 1977, Mezcla de vidrios en los Derrames Cineríticos Las Americas de la region de El Oro-Tlalpujahua, Estados de Mexico y Michoacan, parte centromeridional de Mexico: Instituto de Geologia Boletin 70.
415. Frisken, J. G., Allcott, G. H., Kleinkopf, M. D., Raines, G. L., Lee-Moreno, J. L., and Fuente-Duch, M. F. de la, 1979, A west-northwest-trending discontinuity of the porphyry belt, Sonora, Mexico: Economic Geology.
416. Frisken, J. G., Turner, R. L., Billings, T. M., Monroy, Guillermo, and Ponce, Benjamin, 1977, Map showing distribution pattern of copper from samples of -80 mesh stream sediment, northern Sonora, Mexico: U.S. Geological Survey Open-File Map 77-338, scale 1:250,000.
417. Frisken, J. G., Turner, R. L., Billings, T. M., Monroy, Guillermo, and Ponce, Benjamin, 1977, Map showing distribution pattern of molybdenum from samples of the nonmagnetic fraction of heavy-mineral concentrates, northern Sonora, Mexico: U.S. Geological Survey Open-File Map 77-332, scale 1:250,000.
418. Frisken, J. G., Turner, R. L., Billings, T. M., Monroy, Guillermo, and Ponce, Benjamin, 1977, Map showing distribution pattern of tin from samples of the nonmagnetic fraction of heavy-mineral concentrates, northern Sonora, Mexico: U.S. Geological Survey Open-File Map 77-331, scale 1:250,000.
419. Fuente-Duch, M. F. de la, Kleinkopf, M. D., Raines, Gary, and Peterson, D. L., in press, Geophysical studies of mineral resources, northern Sonora, Mexico: Asociacion Ingenieros de Minas, Metalurgia, y Geologica de Mexico, Acapulco meeting, October 16-20, 1977.
420. Grossling, B. F., 1979, Brief on Reforma-Campeche's (Mexico) petroleum potential: U.S. Geological Survey Open-File Report 79-237, 52 p., 3 figs.
421. Harrison, J. E., and Peterman, Z. E., 1980, North American Commission on stratigraphic nomenclature note 52 - A preliminary proposal for a chronostratigraphic time scale for the Precambrian of the United States and Mexico: Geological Society of America Bulletin, v. 91, no. 1, p. 377-380.
422. Hinkle, M. E., McDaniel, S. K., Benitez, George, and Chavez, Luis, 1977, Map showing distribution pattern of barium from samples of the nonmagnetic fraction of heavy-mineral concentrates, northern Sonora, Mexico: U.S. Geological Survey Open-File Map 77-340, scale 1:250,000.
423. Hinkle, M. E., McDaniel, S. K., Benitez, George, and Chavez, Luis, 1977, Map showing distribution pattern of strontium from samples of the nonmagnetic fraction of heavy-mineral concentrates, northern Sonora, Mexico: U.S. Geological Survey Open-File Map 77-339, scale 1:250,000.

424. Kleinkopf, M. D., Fuente-Duch, M. F. de la, Raines, Gary, and O'Leary, Dennis, 1976, Porphyry copper exploration in northern Mexico with special reference to remote sensing, geophysical, and geochemical methods [abs.]: International Geological Congress, 25th, Sydney, Australia, Symposium on Advances in Exploration Remote Sensing, Aug. 16-25, 1976.
425. Kleinkopf, M. D., Fuente-Duch, M. F. de la, Raines, Gary, and Peterson, D. L., 1976, Geophysical research in porphyry copper exploration, northern Mexico: Geological Society of America Rocky Mountains Section, May 19-24, 1976, Abstracts with Programs, v. 8, no. 5, p. 595.
426. Kleinkopf, M. D., Fuente-Duch, M. F. de la, Raines, Gary, and Peterson, D. L., 1977, Geophysical studies of mineral resources, Sonora, Mexico [abs.]: Geological Society of America, Abstracts with Programs, v. 9, no. 1, p. 30.
427. Knudson, C. F., and Prince, Jorge, in press, Accelerograph records from Oaxaca, Mexico [abs.]: Seismological Society of America, Annual meeting, Golden, Colorado, May 1979.
428. Lee-Moreno, J. L., Claire, L. F., and Chaffie, M. A., 1975, Results of geochemical investigations comparing samples of stream sediment, panned concentrate, and vegetation in the vicinity of the Caridad porphyry copper deposit, northern Sonora, Mexico [abs.]: Mining Engineering, v. 27, no. 12, p. 68c.
429. Liddicoat, J. C., Coe, R. S., Lambert, P. W., and Valastro, S., Jr., 1979, Paleomagnetic record in late Pleistocene and Holocene dry lake deposits at Tlapacoya, Mexico: Royal Astronomical Society, Geophysical Journal, v. 59, p. 367-378, 1979.
430. Liddicoat, J. C., Coe, R. S., Lambert, P. W., and Valastro, S., Jr., in press, A possible late Quaternary geomagnetic field excursion at the Tlapacoya, Mexico, archaeological site: Southwestern Anthropological Association.
431. Lofgren, B. E., and Massey, B. L., 1979, Monitoring crustal strain, Cerro Prieto geothermal field, Baja California, Mexico: U.S. Geological Survey Open-File Report 79-204, 38 p., 5 figs., 2 tables.
432. Massey, B. L., 1978, Regional and local networks of horizontal control, Cerro Prieto geothermal area, Mexico: U.S. Geological Survey Open-File Report 78-935, 9 p., 5 figs.
433. Mosier, E. L., and Allcott, G. H., 1979, Geochemical evidence for thorium and associated elements in northern Sonora [Mexico]: in Geochemical Exploration 1978: International Exploration Symposium, 7th, Golden, Colorado, Proceedings, p. 129-137.
434. Mosier, E. L., Ortiz, Antonio, Morin, Juan, and Ontiveras, Hector, 1977, Map showing distribution pattern of iron from samples of the non-magnetic fraction of heavy-mineral concentrates, northern Sonora, Mexico: U.S. Geological Survey Open-File Map 77-335, scale 1:250,000.

435. Mosier, E. L., Ortiz, Antonio, Morin, Juan, and Ontiveras, Hector, 1977, Map showing distribution pattern of silver from samples of the nonmagnetic fraction of heavy-mineral concentrates, northern Sonora, Mexico: U.S. Geological Survey Open-File Map 77-336, scale 1:250,000.
436. Naeser, C. W., and Fleischer, R. L., 1975, Age of the apatite at Cerro do Mercado, Mexico: A problem for fission-track annealing corrections: *Journal of Geophysics Letters*, v. 2, no. 2, p. 67-70.
437. Nehring, N. L., and Fausto, J., 1979, Gases in steam from Cerro Prieto, Mexico, geothermal wells, with a discussion of steam/gas ratio measurements [abs.]: Cerro Prieto First Symposium on Cerro Prieto Geothermal Field, Baja California, Mexico-San Diego, California, 1978, Proceedings LBL report 7098, p. 127-129.
438. Nehring, N. L., and Fausto, J., in press, Gases from the Cerro Prieto, Mexico, geothermal wells: Cerro Prieto Geothermal Field Symposium, 1st, Proc.
439. Raines, G. L., 1976, A porphyry copper exploration model for northern Sonora, Mexico [abs.]: *Geological Society of America Abstracts with Programs*, v. 8, no. 6, p. 1057.
440. Raines, G. L., 1977, Map of lineaments and lineament intersections in northern Sonora, Mexico: U.S. Geological Survey Open-File Report 77-78, 5 p., 12 pls.
441. Raines, G. L., 1978, Porphyry copper exploration model for northern Sonora, Mexico: U.S. Geological Survey *Journal of Research*, v. 6, no. 1, p. 51-58.
442. Raines, G. L., Theobald, P. K., Kleinkopf, M. D., Lee-Moreno, J. L., and Fuente-Duch, M. F. de la, 1978, A case history of base metal exploration in Sonora, Mexico [abs.]: *International Association for the Genesis of Ore Deposits, Snowbird, Utah, Programs and Abstracts*, p. 148.
443. Raines, G. L., Theobald, P. K., Kleinkopf, M. D., Lee-Moreno, J. L., and Fuente-Duch, M. F. de la, 1978, Tectonic model for mineral exploration, northern Sonora, Mexico [abs.]: *Resumes, 1st, Simposio sobre la geologia y potencial minero del estado de Sonora, Instituto de Geologia, U.N.A.M., Hermosillo, Sonora, May 1-6, 1978*, p. 99-101.
444. Reinnitz, E., 1975, Large-scale depositional and erosional features from seismic profiles of the Rio Balsas delta and canyons, Mexico [abs.]: *Geological Society of America Abstracts with Programs*, v. 7, no. 7, p. 1242.
445. Shepard, F. P., Reinnitz, E., Marshall, N. F., and McLoughlin, P. A., 1975, Current meter records in submarine valleys of the Rio Balsas, Mexico [abs.]: *Geological Society of America Abstracts with Programs*, v. 7, no. 7, p. 1268.

446. Steen-McIntyre, Virginia, Fryxell, Roald, and Malde, H. E., in press, Age of deposits at Hueyatenco archaeological site, Valsequillo, Mexico, implied by new stratigraphic and petrographic findings: Southwest Anthropological Society--Sociedad Mexicana Antropologia Symposium vol., 40 p.,
447. Szabo, B. J., Ward, W. C., Weidie, A. E., and Brady, M. J., 1978, Age and magnitude of the late Pleistocene sea-level rise on the eastern Yucatan Peninsula [Mexico]: *Geology*, v. 6, no. 12, p. 713-715.
448. Theobald, P. K., Benitz-Muro, J. A., Lee-Moreno, J. L., and Turner, R. L., 1978, Some major mineralization-related geochemical provinces in northern Sonora [Mexico] [abs.]: First symposium on the geology of the state of Sonora and its mineral potential, University of Sonora, Hermosillo, Sonora, Mexico.
449. Theobald, P. K., Jr., and Lee-Moreno, J. L., in press, New targets for mineral exploration: The product of integrated, regional studies in northern Mexico: *Sociedad Geologica del Peru, Bulletin*.
450. Theodora, T. G., and de Wit, M. P., 1976, Porphyry-type metallization and alteration at La Florida de Nacozari, Sonora, Mexico: U.S. Geological Survey Open-File Report 76-760, 28 p., 7 figs.
451. Theodore, T. G., and de Wit, M. P., 1976, Potassic alteration at La Florida de Nacozari, Sonora, Mexico [abs.]: *Geological Society of America Abstracts with Programs*, v. 8, no. 6, p. 1135.
452. Truesdell, A. H., and Manon, Alfredo, in press, Geochemical evidence of drawdown in the Cerro Prieto, Mexico, geothermal field: Cerro Prieto Geothermal Field Symposium, 1st, Proc.
453. Truesdell, A. H., and Manon, M. A., in press, Geochemical indications of boiling in the aquifer of the Cerro Prieto geothermal field, Mexico: Mexico Primera Reunion de Intercambio Tecnico Sobre Geotermia, Symposium vol.
454. Truesdell, A. H., Manon, Alfredo, Jimenez, Alfredo, Sanchez, A., and Fausto, J., in press, Geochemical evidence of drawdown in the Cerro Prieto, Mexico, geothermal field: Cerro Prieto Symposium vol.
455. Truesdell, A. H., Rye, R. O., Pearson, F. J., Jr., Olson, E. R., Nehring, N. L., Huebner, M. A., and Coplen, T. B., II, in press, Preliminary isotopic studies of fluids from the Cerro Prieto geothermal field, Baja California, Mexico: Cerro Prieto Symposium vol.
456. Turner, R. L., Theobald, P. K., Perez, G., and Ortiz, A., in press, The role of the small-scale geochemical exploration venture in northern Sonora, Mexico [abs.]: Conference on the Future of Small-scale Mining, Mexico City, Mexico, Nov. 1978, Proc. vol.



457. U.S. Geological Survey--Consejo de Recursos Minerales of Mexico, 1977, Preliminary simple Bouguer gravity map of northeastern Sonora, northwestern Chihuahua, and southeastern Arizona: U.S. Geological Survey Open-File Report 77-473, scale 1:500,000.
458. Valle Gomez, Rodolfo, Friedman, J. D., Gawarecki, S. J., and Banwell, C. J., 1970, Photogeologic and thermal-infrared reconnaissance surveys of the los Negritos-Ixtlan de los Hervores geothermal area, Michoacan, Mexico: Geothermics, special issue 2; United National Symposium on Development and Utilization of Geothermal Resources, Pisa, Italy, Proceedings v. 2, pt. 1, p. 381-398.
459. Wardlaw, B. R., Furnish, W. M., and Nestell, M. K., 1977, Interpretation of geology and paleontology of Permian beds near Las Delicias, Coahuila, Mexico [abs.]: Geological Society of America, Abstracts with Programs, v. 9, no. 1, p. 80.
460. Wardlaw, B. R., Furnish, W. M., and Nestell, M. K., 1979, Geology and paleontology of the Permian beds near Las Delicias, Coahuila, Mexico: Geological Society of America Bulletin, v. 90, pt. 1, no. 1, p. 111-116.
461. Weiss, P. L., and Salas, G. A., in press, Amorphous graphite resources of Sonora, Mexico: Engineering and Mining Journal.
462. Wilson, I. F., Milton, Charles, and Houston, J. R., 1975, A mineralogical study of the Guanajuato, Mexico, silver-gold ores: U.S. Geological Survey Open-File Report 75-70, ((IR)MEX-1), 12 p., 56 illus., 1 table.
463. Woo, C. C., in press, Crystallization sequence of ferromanganese minerals from the sea floor and in the Chihuahua geodes of Mexico: Geological Society of America meeting.

#### MOROCCO

464. Brown, G. F., 1980, Summary of data available for Morocco as of June 10, 1977: U.S. Geological Survey Open-File Report 80-520, ((IR)MOR-1), 14 p.

#### NEPAL

465. Williams, V. S., 1977, Pattern of Quaternary tectonic deformation indicated by alluvial deposits in the Sapta Kosi drainage basin, eastern Nepalese Himalaya [abs.]: Geological Society of America Abstracts with Programs, v. 9, no. 7, p. 1229.

#### NEW ZEALAND

466. Howell, D. G., 1979, Depositional configuration of redeposited sediments as a function of sediment accumulation rate, South Island, New Zealand [abs.]: Geological Society of America, Abstracts with Programs, v. 11, no. 7, p. 447.

467. Howell, D. G., 1979, South Island, New Zealand, A segment of the Gondwanaland margin reflecting Mesozoic microplate accretion: Geological Society of America, Abstracts with Programs, v. 11, no. 7, p. 446.

#### NICARAGUA

468. Husid, R., and Espinosa, A. F., 1975, Seismological and engineering aspects of the March 6, 1974, Carazo earthquake [Nicaragua]: European Conference on Earthquake Engineering, 5th, Proceedings, v. 2, chap. 7, paper 137.
469. Krushensky, R. D., Schmoll, H. R., and Dobrovolsky, Ernest, 1975, The 1972 Managua earthquake: Geologic constraints on planning for the reconstruction or relocation of Managua, Nicaragua: Caribbean Geological Conference, 7th, 1974, Martinique and Guadeloupe, French Antilles, Transactions p. 610-614.
470. Schmoll, H. R., Krushensky, R. D., and Dobrovolsky, Ernest, 1975, Geologic considerations for redevelopment planning of Managua, Nicaragua, following the 1972 earthquake: U.S. Geological Survey Professional Paper 914, 23 p., 1 pl., 8 figs.

#### NIGERIA

471. Ege, V. R., Griffiths, W. C., and Overstreet, W. C., 1977, Preliminary engineering geologic report on selection of urban sites in the Federal Capital Territory, Nigeria: U.S. Geological Survey Open-File Report 77-885, 78 p.
472. Girard, O. W., 1979, Petroleum geology of the Niger Delta, Appendix B, in U.S. Department of Energy/U.S. Geological Survey, Report on the petroleum resources of the Federal Republic of Nigeria: National Technical Information Service, DOE/IA-0008, 131 p.
473. Overstreet, W. C., Chavez, P. S., Jr., Gawarecki, S. J., and Aaron, Obiabaka, 1977, Provisional map showing land use based on interpretation of vegetation, Federal Capital Territory, Republic of Nigeria: Nigeria Federal Capital Development Authority, scale 1:100,000.
474. Peterson, L. R., and Meyer, Gerald, 1977, Hydrologic reconnaissance evaluation of the Federal Capital Territory and surrounding areas, Nigeria: U.S. Geological Survey Open-File Report 77-596, 31 p., 3 figs.
475. U.S. Department of Energy and U.S. Geological Survey, 1979, Report on the petroleum resources of the Federal Republic of Nigeria, Foreign Energy Supply Assessment Series: National Technical Information Service, DOE/IA-0008, UC-92 and 92a, p. B-1 through B-29.
476. U.S. Geological Survey, 1977, Landsat-image geographic map, Federal Capital Territory, Republic of Nigeria: Nigeria Federal Capital Development Authority, scale 1:100,000.

NORWAY

477. Neuman, R. B., 1979, Brachiopods of the Hólonda area, western Norway [abs.]: The Caledonides in the U.S.A., Blacksburg, Virginia, Sept. 1979.
478. Peterman, Z. E., and Barker, Fred, 1976, Rb-Sr whole-rock age of trondhjemites and related rocks of the southwestern Trondheim region, Norway: U.S. Geological Survey Open-File Report 76-670, 17 p., 1 fig., 1 table.

OMAN

479. Bailey, E. H., in press, Geologic map of Muscat-Ibra area, Sultanate of Oman: Journal of Geophysical Research - Special Oman Volume.
480. Coleman, R. G., Huston, C. C., El-Boushi, I. M., Al-Hinai, K. M., and Bailey, E. H., 1978, Occurrence of copper-bearing massive sulfides in the Semail Ophiolite, Sultanate of Oman [abs.]: Precambrian Research, v. 6, p. A11-A12.
481. Coleman, R. G., Huston, C. C., El-Boushi, I. M., Al-Hinai, K. M., and Bailey, E. H., 1978, Ophiolite and associated massive sulfides in the Semail Ophiolite, Sultanate of Oman [abs.]: Symposium on Evolution and Mineralization of the Arabian-Nubian Shield, Jiddah, Saudi Arabia, Feb. 1978, 2 p.
482. Coleman, R. G., Huston, C. C., El-Boushi, I. M., Al-Hinai, K. M., and Bailey, E. H., 1979, The Semail ophiolite and associated massive sulfide deposits, Sultanate of Oman: King Abdulaziz University Institute of Applied Geology Symposium on the evolution and mineralization of the Arabian-Nubian shield, Jiddah, February 1978, Bull. 3, v. 2, p. 179-192.
483. Grolier, M. J., 1977, Interpretation of Landsat images; Oman (prelim. report): U.S. Geological Survey Open-File Report 77-296, ((IR)OM-2), 2 p., 1 fig.
484. Hopson, C. A., Coleman, R. G., Gregory, R. T., Pallister, J. S., and Bailey, E. H., in press, Geologic section through the Semail ophiolite and associated rocks along a Muscat-Ibra transect, southeastern Oman mountains: Journal of Geophysical Research - Special Oman Volume.
485. Hopson, C. A., Pallister, J. S., Coleman, R. G., and Bailey, E. H., 1977, Gabbro section of the Semail Ophiolite near Ibra, southeastern Oman Mountains, Sultanate of Oman: Geological Society of America Abstract with Programs, v. 9, no. 7, p. 1024-1025.
486. Lanphere, M. A., in press, K-Ar ages of metamorphic rocks at the base of the Semail ophiolite, Oman: Journal of Geophysical Research - Special Oman Volume.
487. Lanphere, M. A., Coleman, R. C., and Hopson, C. A., in press, Sr isotopic tracer study of the Semail ophiolite, Oman: Journal of Geophysical Research - Special Oman Volume.

488. Pohn, H. A., 1976, A comparison of Landsat images and Nimbus thermal-inertia mapping of Oman: U.S. Geological Survey Journal of Research, v. 4, no. 6, p. 661-666.
489. Pohn, H. A., Offield, T. W., and Watson, Kenneth, 1974, Thermal inertia mapping from satellite: Discrimination of geologic units in Oman: U.S. Geological Survey Journal of Research, v. 2, no. 2, p. 147-158.

PACIFIC REGION

490. Barger, K. E., Marshall, Monte, and Trumbull, J. V. A., 1975, Bathymetry and ice-rafted pebbles from the northern end of the Emperor Seamount Chain: U.S. Geological Survey Open-File Report 75-609, 19 p., 4 figs., 1 table.
491. Barnes, Ivan, 1978, Provenance and geochemistry of carbon dioxide-rich ground waters, Circum-Pacific region: Circum-Pacific Energy and Mineral Resources Conference, 2nd, Honolulu, July-Aug., 1978, Program and Abstract of papers, p. 20.
492. Carter, W. D., and DeNoyer, J. M., 1978, Landsat images of part of the U.S. Trust Territory of the Pacific Islands and other Pacific outlying areas: International Symposium on Remote Sensing of the Environment, 12th, v. 1, p. 755-764.
493. Circum-Pacific Map Project, 1977, Geographic map of the Circum-Pacific region, Northeast Quadrant: Tulsa, American Association of Petroleum Geologists, 1 sheet, scale 1:10,000,000.
494. Circum-Pacific Map Project, 1977, Geographic map of the Circum-Pacific region, Northwest Quadrant: Tulsa, American Association of Petroleum Geologists, 1 sheet, scale 1:10,000,000.
495. Davis, D. A., 1978, Water supplies in limestone terranes of Micronesia: Circum-Pacific Energy and Mineral Resources Conference, 2nd, Honolulu, July-Aug., 1978, Program and Abstract of papers, p. 25.
496. Dean, W. E., Thiede, John, and Claypool, G. E., 1979, Origin of organic-rich limestones of mid-Cretaceous age, Mid-Pacific Mountains and Southern Hess Rise, central north Pacific Ocean: Geological Society of America, Abstracts with Programs, v. 11, no. 7, p. 411.
497. Ericksen, G. E., 1975, Metallogenic provinces of the southeastern Pacific region: U.S. Geological Survey Open-File Report 75-263, ((IR)CP-1), 52 p., 13 pl.
498. Ericksen, G. E., 1976, Metallogenic provinces of the southwestern Pacific region, in Halbouty, M. T., ed., Circum-Pacific Energy and Mineral Resources: American Association of Petroleum Geologists Memoir 25, p. 527-538.

499. Fehn, U., Siegel, M. D., Robinson, G. R., Holland, H. D., Williams, D. L., Erickson, A. J., and Green, K. E., 1977, Deep-water temperatures in the FAMOUS area: Geological Society of America Bulletin, v. 88, no. 4, p. 488-494.
500. Fischer, W. A., 1979, Progress in remote sensing as it applies to missions of CCOP: U.S. Geological Survey Open-File Report 79-598, ((IR)EA-5).
501. Gardner, J. V., and Dean, W. E., 1979, Bathymetry, lithology and structure of Shimada Seamount, east-central Pacific Ocean [abs.]: Geological Society of America, Abstracts with Programs, v. 11, no. 7, p. 430.
502. Gromme, C. S., and Mankinen, E. A., 1976, Natural remanent magnetization, magnetic properties, and oxidation of titanomagnetite in basaltic rock from Deep Sea Drilling Project Leg 34: Yeats, R. S., and Hart, S. R., eds., National Science Foundation Initial reports of the Deep Sea Drilling Project, v. 34.
503. Heezen, B. C., and Tharp, Marie, 1978, Bathymetric map of the Northeast Equatorial Pacific Ocean: U.S. Geological Survey Miscellaneous Investigations Map I-1095, scale 1:5,000,000.
504. Jackson, E. D., and Schlanger, S. O., 1976, Regional syntheses, Line Island Chain, Tuamotu Island Chain, and Manihiki Plateau, Central Pacific Ocean, in Deep Sea Drilling Program, v. 36, p. 915-927.
505. Lichtman, G. S., and Normark, W. R., 1979, Detailed morphology and photogeology of the East Pacific Rise near lat. 21°N.: Geological Society of America Abstracts with Programs, v. 11, no. 7, p. 446.
506. Marshall, C. M., 1978, The magnetic properties of some Deep Sea Drilling Project basalts from the north Pacific, and inferences for Pacific plate tectonics: Journal of Geophysical Research, v. 83, p. 289-308.
507. McKelvey, V. E., and Wright, N. A., 1980, Metal content of manganese nodules in part of the southeastern equatorial Pacific: U.S. Geological Survey Open-File Report 80-373.
508. Richards, P. W., 1979, Status of the Circum-Pacific Map Project--A summary of the Circum-Pacific Map Project meeting in Menlo Park, California, May 2-4, 1979: U.S. Geological Survey Open-File Report 79-1561, ((IR)CP-3).
509. Richards, P. W., 1979, The Circum-Pacific Map Project: Episodes, v. 1979, no. 1.
510. Sheldon, R. P., 1978, Phosphogenic provinces of the Circum-Pacific region: Circum-Pacific Energy and Mineral Resources Conference, 2nd, Honolulu, July-Aug., 1978, Program and Abstract of papers, p. 46.

511. Taylor, F. A., and Brabb, E. E., 1979, Annotated bibliography of landslides in the Circum-Pacific region exclusive of the Soviet Union and the United States: U.S. Geological Survey Open-File Report 79-546, 461 p., 1 pl.
512. Terman, M. J., 1978, Tectonic map for the Circum-Pacific map project: U.S. Geological Survey Open-File Report 78-118, 11 p.
513. Varnes, D. J., 1978, Slope-stability problems of Circum-Pacific region as related to mineral and energy resources: Circum-Pacific Energy and Mineral Resources Conference, 2nd, Honolulu, July-Aug., 1978, Program and Abstract of papers, p. 50.
514. Younse, G. A., and Denman, J. M., 1979, Selected geologic literature on energy resources and phosphate deposits in the northeastern Circum-Pacific region: U.S. Geological Survey Open-File Report 79-297, ((IR)CP-2), 910 p., 2 figs.

#### PAKISTAN

515. Calkins, J. A., Jamaluddin, S., Bhuyan, K., and Hussain, A., 1980, Geology and mineral resources of the Chitral-Partisan area, northern Pakistan: U.S. Geological Survey Open-File Report 80-837, ((IR)PK-62), 88 p., 6 figs., 2 tables, 2 pls.
516. Calkins, J. A., Offield, T. W., Abdullah, S. K. M., and Ali, S. T., 1975, Geology of the southern Himalaya in Hazara, Pakistan, and adjacent areas: U.S. Geological Survey Professional Paper 716-C, 29 p.
517. Danilchik, Walter, and Shah, S. M. I., 1975, Stratigraphic nomenclature of formations in the Trans-Indus Mountains, Mianwali District, Pakistan: U.S. Geological Survey Open-File Report 75-622, ((IR)PK-33), 46 p., 1 fig., 2 tables.
518. Danilchik, Walter, and Shah, S. M. I., 1979, Stratigraphy and coal resources of the Makarwal area, Trans-Indus Mountains, Mianwali District, Pakistan: U.S. Geological Survey Open-File Report 79-532, ((IR)PK-60), 118 p., 12 figs.
519. Deutsch, Morris, and Ruggles, F. H., 1978, Hydrological applications of the Landsat imagery used in the study of the 1973 Indus River Flood, Pakistan: American Water Resources Association, Water Resources Bulletin, v. 14, no. 2, p. 261-274.
520. Fritz, E. B., and Khan, Mujib-ur, 1975, Stratigraphy and paleontology of the coal beds in the Ghazij Shale, Sor Range-Daghari coal field, Quetta Division, Pakistan: U.S. Geological Survey Open-File Report 75-274, ((IR)PK-15), 16 p., 2 figs.
521. Ghani, M. A., Harbour, R. L., Landis, E. R., and Kebblish, William, 1975, Geology and coal resources of the Lakhra coal field, Hyderabad area, Pakistan: U.S. Geological Survey Open-File Report 75-553, ((IR)PK-55), 89 p., 2 pls., 6 figs., 6 tables.

522. Harbour, R. L., and Ghani, M. A., 1975, Results of core drilling for coal at Lakhra anticline, Pakistan, from December 1961 to May 1965: U.S. Geological Survey Open-File Report 75-361 ((IR)PK-7), 35 p., 4 figs., 2 tables.
523. Johnson, G. D., Naeser, C. W., Johnson, N. M., Summers, D. M., Zeitler, P., Opydke, N. D., and Tahirkheli, R. A. L., in press, Pliocene-Pleistocene bentonites, Upper Siwalik subgroup, northern Pakistan: I. Age and Chronology, in Earth and Planetary Science Letters.
524. Klinger, F. L., and Ahmad, M. I., 1975, Barite deposits near Khuzdar, Kalat Division, Pakistan: U.S. Geological Survey Open-File Report 75-275, ((IR)PK-21), 29 p., 6 figs., 2 tables.
525. Klinger, F. L., Matzko, J. J., and Abbas, S. H., 1975, Antimony deposits of the Quetta-Pishin district, Quetta Division, Pakistan: U.S. Geological Survey Open-File Report 75-161, ((IR)PK-2), 23 p., 5 figs.
526. Kummel, Bernhard, and Teichert, Curt, eds., 1970, Stratigraphic boundary problems: The Permian and Triassic of West Pakistan: Department of Geology, University of Kansas, Special Publication 4, Kansas University Press, Lawrence, Kansas, 474 p.
527. Kummel, Bernhard, and Teichert, Curt, 1973, The Permian-Triassic boundary in the Salt Range of West Pakistan: International Geological Congress, 22nd, 1964, Part VIII, Paleontology and Stratigraphy, p. 143-156.
528. Malberg, G. T., 1975, Reclamation by tubewell drainage in Rechna Doab and adjacent areas, Punjab region, Pakistan: U.S. Geological Survey Water Supply Paper 1608-O, 72 p., 5 pls., 7 figs., 14 tables.
529. Matzko, J. J., and Hassan, Mamnoon, 1975, Mineralogy of ironstones from the Chichali and Makarwal areas, Mianwali and Kohat Districts, Pakistan: U.S. Geological Survey Open-File Report 75-494, ((IR)PK-26), 18 p., 3 figs., 4 tables.
530. Matzko, J. J., Hussain, Fida, and Hassan, Mamnoon, 1975, Examination of selected radioactive samples from Pakistan: U.S. Geological Survey Open-File Report 75-621, ((IR)PK-57), 27 p., 4 figs., 4 tables.
531. Matzko, J. J., and Stanin, S. A., 1975, Stratigraphy and mineralogy of laterite beds near Ziarat, Quetta Division, Pakistan: U.S. Geological Survey Open-File Report 75-555, ((IR)PK-23), 37 p., 1 pl., 7 tables.
532. Meissner, C. R., Hussain, Muzaffar, Rashid, M. A., and Sethi, U. B., 1975, Stratigraphy of the Parachinar quadrangle, Pakistan: U.S. Geological Survey Professional Paper 716-F, 24 p.
533. Mundorff, M. J., Carrigan, P. H., Jr., Steele, T. D., and Randall, A. D., 1976, Hydrologic evaluation of salinity control and reclamation projects in the Indus Plain, Pakistan--a summary: U.S. Geological Survey Water-Supply Paper 1608-Q, 59 p., 2 pls.

534. Mytton, J. W., 1975, Appraisal of phosphate in Pakistan: U.S. Geological Survey Open-File Report 75-623, ((IR)PK-53), 39 p., 4 figs., 2 tables.
535. Nagell, R. H., 1975, Reconnaissance of the geology and ore mineralization in part of the Chagai District, Pakistan: U.S. Geological Survey Open-File Report 75-550, ((IR)PK-27), 76 p., 1 pl., 12 figs., 3 tables.
536. Nagell, R. H., 1975, Sulphur, fluorspar, magnesite, and aluminous chromite in Pakistan: U.S. Geological Survey Open-File Report 75-496, ((IR)PK-49), 33 p., 8 figs.
537. Page, N. J., Haffty, Joseph, and Zaki, Ahmad, 1980, Palladium, platinum, and rhodium concentrations in mafic and ultramafic rocks from the Zhob Valley and Dargai complexes, Pakistan: U.S. Geological Survey Professional Paper 1124-F, 6 p.
538. Rossman, D. L., Zaki, Ahmad, and Rahman, Hamidur, 1971, Geology and economic potential for chromite in the Zhob Valley ultramafic rock complex, Hindubagh, Quetta Division, Pakistan: U.S. Geological Survey Open-File Report, ((IR)PK-50), 63 p., 13 figs.
539. Ruggles, F. H., Deutsch, Morris, Rabchevsky, G. A., and Yost, Edward, 1975, Assessment of the Indus River flood of 1973 using Landsat imagery [abs.]: American Water Resources Association, 11th American Water Resources Conference, Baton Rouge.
540. Schmidt, R. G., 1975, Summary of the search for radioactive minerals in Pakistan to 1963: U.S. Geological Survey Open-File Report 75-495, ((IR)PK-13), 43 p., 6 figs.
541. Schmidt, R. G., 1976, Exploration for porphyry copper deposits in Pakistan using digital processing of Landsat-1 data: U.S. Geological Survey Journal of Research, v. 4, no. 1, p. 27-34.
542. Schmidt, R. G., 1980, Mineral reconnaissance in the Chagai District, Pakistan, using a four-dimensional vector method of digital classification of Landsat data: U.S. Geological Survey Open-File Report 80-721.
543. Seeber, L., and Jacob, K., 1980, Earthquake prediction in Pakistan: U.S. Geological Survey Open-File Report 80-1157, 45 p.
544. Stanin, S. A., 1975, Laterite and other aluminous deposits in Pakistan: U.S. Geological Survey Open-File Report 75-164, ((IR)PK-4), 25 p., 5 figs., 1 table.
545. Stanin, S. A., Wahid, M. A., and Khan, A. A., 1975, Geochemical prospecting for soluble salts in Kuchakki Hamun, Chagai District, Pakistan: U.S. Geological Survey Open-File Report 75-165, ((IR)PK-12), 10 p., 3 figs.



546. Stanin, S. A., Wahid, M. A., and Khan, Shamsher, 1975, Geochemical prospecting for copper and nickel in the Wulgai and Tor Tangi areas southeast of Hindubagh, Quetta Division, Pakistan: U.S. Geological Survey Open-File Report 75-163, ((IR)PK-5), 9 p., 1 pl., 3 figs.
547. Stauffer, K. W., 1975, Geology of the Gilgit-Hispar area, Gilgit Agency, Pakistan: U.S. Geological Survey Open-File Report 75-273, ((IR)PK-19), 42 p., 1 pl., 1 table.
548. Stauffer, K. W., 1975, Geology of the Khyber Pass, Khyber Agency, Pakistan: U.S. Geological Survey Open-File Report 75-272, ((IR)PK-22), 42 p., 1 fig., 1 plate.
549. Stauffer, K. W., 1975, Heavy minerals in stream sands of the southern Hazara District, Pakistan: U.S. Geological Survey Open-File Report 75-360, ((IR)PK-18), 42 p., 21 figs., 1 table.
550. Stauffer, K. W., 1975, Reconnaissance geology of the Central Mastuj Valley, Chitral State, Pakistan: U.S. Geological Survey Open-File Report 75-556, ((IR)PK-24), 51 p., 1 pl., 6 figs.
551. Stauffer, K. W., and Calkins, J. A., 1975, Heavy-mineral prospecting in Pakistan: U.S. Geological Survey Open-File Report 75-359, ((IR)PK-16), 35 p.
552. Teichert, Curt, 1976, Continental facies of Cambrian and Gondwana age, Salt Range, West Pakistan [abs.]: International Geological Congress, 25th, Australia, Abstracts, v. 3, p. 837.
553. White, M. G., 1975, Copper, lead, zinc, antimony, and arsenic in Pakistan: U.S. Geological Survey Open-File Report 75-162 ((IR)PK-4), 39 p., 7 figs.

#### PERU

555. Alpha, T. R., 1979, Oblique map of the May 31, 1970, debris avalanche, Huascaran Mountain, Peru: U.S. Geological Survey Open-File Report 79-373, 1 pl.
555. Blakely, R. J., and Hassanzadeh, Sramak, 1977, Depth to magnetic source and the Peru-Chile Trench [abs.]: EOS, American Geophysical Union, Transactions v. 58, p. 1124.
556. Ericksen, G. E., in press, Incidencia y mecanismos de deslizamientos durante terremotos: Sociedad Geologica del Peru.
557. Ericksen, G. E., Grantz, Arthur, Plafker, George, and LaCruz, Juan, 1974, Siting considerations to reduce the effects of earthquakes and wind storms, in Design, siting, and construction of low-cost housing and community buildings to better withstand earthquakes and wind storms: National Bureau of Standards, Building Science Series 48, p. 38-74.

558. Espinosa, A. F., Husid, R., and Algermissen, S. T., 1975, Seismological and engineering features of the October 3, 1974, Lima [Peru] earthquake: European Conference on Earthquake Engineering in Istanbul, 5th, Istanbul, Proceedings, Chap. 7, Paper 141.
559. Espinosa, A. F., Husid, R., Algermissen, S. T., and de las Casas, J., 1977, The Lima [Peru] earthquake of October 3, 1974: Intensity distribution: Seismological Society of America Bulletin, v. 67, no. 5, p. 1429-1439.
560. Grolrier, M. J., Ericksen, G. E., and McCauley, J. F., 1976, Wind-furrowed sandstone, northeastern margin of the Sechura Desert (Peru): Rome, International Colloquium of Planetary Geology, Sept. 22-30, 1975, Estratto de Geologica Romana, v. 15, p. 317-325.
561. Husid, R., Espinosa, A. F., and de las Casas, J., 1977, The Lima [Peru] earthquake of October 3, 1974: Damage distribution: Seismological Society of America Bulletin, v. 67, no. 5, p. 1441-1472.
562. McCauley, J. F., Grolrier, M. J., and Breed, C. S., 1977, Yardangs of Peru and other desert regions: U.S. Geological Survey Report prepared for the National Aeronautics and Space Administration, Astrogeology 81, 177 p., 71 figs., 1 table.
563. McKee, E. H., Noble, D. C., Scherckenbach, D. A., Drexler, J. W., and Mendosa, Jose, 1979, Age of porphyry intrusion, potassic alteration, and related Cu-Zn skarn mineralization, Antamina District, northern Peru: Economic Geology, v. 74, p. 928-930, 1979.
564. Noble, D. C., Bowman, H. R., Hebert, A. J., Silberman, M. L., Heropoulos, C. E., Fabbi, B. P., and Hedge, C. E., 1975, Chemical and isotopic constraints on the origin of low-silica latite and andesite from the Andes of central Peru: Geology, v. 3, no. 9, p. 501-504.
565. Noble, D. C., and McKee, E. H., 1975, Cenozoic stratigraphic and tectonic framework of the Andes of Peru [abs.]: Geological Society of America Abstracts with Programs, no. 7, v. 7, p. 1214.
566. Noble, D. C., and McKee, E. H., in press, Nevado Portuguezua volcanic center, central Peru: A Pliocene central volcano collapse caldera complex with associated silver mineralization: Economic Geology.
567. Noble, D. C., McKee, E. H., Megard, Francois, and Salazar, Humberto, 1978, Eocene uplift and uproofing of the coastal batholith of central Peru: Geology, v. 86, p. 403-405.
568. Noble, D. C., Silberman, M. L., Megard, Francois and Bowman, H. R., 1978, Comendite (peralkaline rhyolite) and basalt in the Mitu group, Peru: Evidence for Permian-Triassic lithospheric extension in the central Andes: U.S. Geological Survey Journal of Research, v. 6, no. 4, p. 453-457.

569. Plafker, George, and Ericksen, G. E., 1978, Nevados Huascarán avalanches, Peru, in Voight, Barry, ed., *Rockslides and avalanches*, 1, natural phenomena, Elsevier Scientific Publishing Co., p. 277-314.
570. Plafker, George, and Eyzaguirre, V. R., in press, The disastrous 1971 rock avalanche and wave at Chungar, Peru: Symposium volume on avalanches.
571. Silberman, M. L., and Noble, D. C., 1977, Age of igneous activity and mineralization, Cerro de Pasco, Central Peru: *Economic Geology*, v. 72, no. 6, p. 925-930.
572. Spence, William, and Langer, C. J., 1978, A notable space-time distribution for the 1974 Peru aftershocks [abs.]: *Earthquake Notes*, v. 49, p. 53-54.
573. U.S. Geological Survey, 1979, The energy resources of Peru, v. 1, Annex 1, in Joint Peru/U.S. report on Peru/United States cooperative energy assessment (report prepared for U.S. Department of Energy): National Technical Information Service DOE/IA-0009-2, 155 p.

#### PHILIPPINES

574. De Los Santo, V. C., and Spencer, F. D., 1968, Geology and coal resources of Central Polilio Island, Quezon, [Philippines]: Philippine Bureau of Mines Special Projects Series, Pub. 15--Coal, 59 p., 7 pls., 1 fig., 5 tables.
575. Garrison, R. E., Espiritu, Ernesto, Horan, L. J., and Mack, L. E., 1979, Petrology, sedimentology, and diagenesis of hemipelagic limestone and tuffaceous turbidites in the Aksitero Formation, central Luzon, Philippines: U.S. Geological Survey Professional Paper 1112.

#### POLAND

576. Karkowski, Lukasz, Kozłowski, Andrzej, and Roedder, Edwin, 1979, Gas-liquid inclusions in minerals of ores of zinc, and lead ores from the Silesia-Gracow region [Poland], in *Research on the genesis of zinc-lead deposits of Upper Silesia, Poland*: *Prace Instytutu Geologicznego*, v. XCV, p. 87-94.
577. Zartman, R. E., Pawłowska, Jadwiga, and Rubinowski, Zbigniew, 1979, Lead isotopic composition of ore deposits from the Silesia-Crakov Mining District, in *Research on the genesis of zinc-lead deposits of Upper Silesia, Poland*: *Prace Instytutu Geologicznego*, v. XCV, p. 133-149.

#### PORTUGAL

578. Kelly, W. C., and Rye, R. O., in press, Geologic, fluid inclusion, and stable isotope studies of the tin-tungsten deposits of Panasqueira, Portugal: *Economic Geology*.

## QATAR

579. Grolier, M. J., 1977, Interpretation of Landsat images: Qatar (Preliminary report): U.S. Geological Survey Open-File Report 77-295, ((IR)QA-1), 3 p., 1 fig.
580. Vecchioli, John, 1976, Preliminary evaluation of the feasibility of artificial recharge in northern Qatar: U.S. Geological Survey Open-File Report 76-540, 47 p.

## ROMANIA

581. Brady, A. G., Rojahn, Christopher, Perez, Virgilio, Carydis, P. G., and Sbokos, J. G., 1978, Seismic engineering data report--Romanian and Greek records, 1972-77: U.S. Geological Survey Open-File Report 78-1022, 231 p., 93 figs.
582. Rojahn, Christopher, and Perez, Virgilio, in press, Response spectra analysis of the March 4, 1977, Bucharest, Romania, strong ground motion record [abs.]: Earthquake Notes, v. 49, no. 4, p. 13-14.
583. Youd, T. L., 1977, Reconnaissance report of geotechnical observations for the 4 March 1977 Romanian earthquake: U.S. Geological Survey Open-File Report 77-375, 18 p., 3 figs.

## SAUDI ARABIA

584. Aldrich, L. T., Brown, G. F., Hedge, C. E., and Marvin, Richard, 1978, Geochronologic data for the Arabian shield: U.S. Geological Survey Open-File Report 78-75, ((IR)SA-240), 22 p., 1 fig.
585. Al Shanti, A. M., 1976, Mineralization of Ad Dawadimi District, Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources Geology Bulletin 14, 40 p., 2 pl.
586. Anderson, R. E., 1977, Geology of the Wadi Tarj quadrangle, sheet 19/42-A, Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources Geologic Map GM-29, scale 1:100,000.
587. Anderson, R. E., 1978, Geology of the Mayza quadrangle, sheet 17/43B, Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources, Geologic Map GM-31, scale 1:100,000.
588. Anderson, R. E., 1978, Geology of the Wadi Atf quadrangle, sheet 17/43A, Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources, Geologic Map GM-30, scale 1:100,000.
589. Anderson, R. E., 1979, Geology of the Wadi Atf, sheet 17/43 A, and Mayza sheet 17/43 B, quadrangles, Kingdom of Saudi Arabia: Directorate General of Mineral Resources Bulletin 25, 33 p., 6 ills., 3 tables.

590. Bagdady, A. Y., Whitlow, J. W., and Roberts, R. J., 1978, Placer gold deposits in the Mahd Adh Dhahab district, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 78-1074, ((IR)SA-235), 41 p., 7 figs.
591. Blain, C. F., 1979, Mineralization and gossans in the Wadi Wassat-Wadi Qatan region, Kingdom of Saudi Arabia, with a section on Hydrothermal nickelian mackinawite and alabandite at Wadi Qatan: U.S. Geological Survey Open-File Report 79-671, ((IR)SA-252), 37 p., 5 figs.
592. Blank, H. R., Jr., 1975, Aeromagnetic delineation of Miocene dikes and related structures on the Arabian margin of the Red Sea [abs.]: EOS, American Geophysical Union Transactions, v. 56, no. 6, p. 458.
593. Blank, H. R., Jr., 1978, Aeromagnetic and geologic study of Tertiary dikes and related structures on the Arabian margin of the Red Sea: Saudi Arabian Directorate General of Mineral Resources Bulletin 22, p. G1-G18.
594. Blank, H. R., Jr., and Andreasen, G. E., 1980, Magnetic fields for two-dimensional step and dike models calculated for a geomagnetic inclination of 30°: Saudi Arabian Directorate General of Mineral Resources Technical Manual TM-1980-1, 35 p., 179 plates.
595. Blank, H. R., Jr., Anderson, R. E., Andreasen, G. E., Gettings, M. E., Greenwood, W. R., Hadley, D. G., Hall, S. A., and Schmidt, D. L., in press, First-stage spreading of the Red Sea [abs.]: A new analysis: International Union of Geodesists and Geophysicists, Abstract Vol., (meeting 9/2/75), Grenoble, France, Sept. 1975.
596. Blank, H. R., Jr., Gettings, M. E., and Andreasen, G. E., 1979, Tertiary continental margin in southwest Saudi Arabia: Status of current investigations [abs.]: EOS, American Geophysical Union Transactions, v. 60, no. 18, p. 375.
597. Blank, H. R., Jr., Healy, J. H., Roller, John, Lamson, Ralph, Fisher, Fred, McLearn, Robert, and Allen, Steve, 1979, Seismic refraction profile, Kingdom of Saudi Arabia: Field operations, instrumentation, and initial results: U.S. Geological Survey Open-File Report 79-1568, ((IR)SA-259), 52 p.
598. Blodget, H. W., and Brown, G. F., in press, Geological mapping in western Saudi Arabia by use of computer-enhanced imagery, Kingdom of Saudi Arabia: U.S. Geological Survey Professional Paper.
599. Blodget, H. W., Brown, G. F., and Moik, J. G., 1975, Geological mapping in northwestern Saudi Arabia using Landsat-multispectral techniques: National Aeronautics and Space Administration, Earth Resources Survey Symposium, Houston, Texas, 1975, Sec. B, NASA-TM-X-58163, v. 1B, Geology.
600. Blodget, H. W., Gunther, F. J., and Podwysocki, M. H., 1978, Discrimination of rock classes and alteration products in southwestern Saudi Arabia with computer-enhanced Landsat data: National Aeronautics and Space Administration Technical Paper 1327.

601. Bowen, R. W., 1979, GMAP (Graphic Normative Analysis Program), amended by Odell, John, and North, L. D.: U.S. Geological Survey Open-File Report 79-1211, ((IR)SA-254), 94 p.
602. Bramkamp, R. A., Brown, G. F., Holm, D. A., and Layne, N. M., Jr., 1977, Geographic map of the Wadi as Sirhan quadrangle, Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources Geologic Map GM-200-B, scale 1:500,000 (reprint).
603. Bramkamp, R. A., Geirhart, R. D., Brown, G. F., and Jackson, R. O., 1978, Geographic map of the southern Tuwayq quadrangle, Kingdom of Saudi Arabia, Saudi Arabian Directorate General of Mineral Resources Geologic Map GM-212-B, scale 1:500,000 (reprint).
604. Bramkamp, R. A., and Ramirez, L. F., 1976, Geographic map of the Darb Zubaydah quadrangle, Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources Geologic Map GM-202-B, scale 1:500,000 (reprint).
605. Bramkamp, R. A., and Ramirez, L. F., 1976, Geographic map of the Jawf-Sakakah quadrangle, Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources Geologic Map GM-201-B, scale 1:500,000 (reprint).
606. Bramkamp, R. A., and Ramirez, L. F., 1976, Geographic map of the northwestern Rub' Al Khali quadrangle, Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources, Geologic Map GM-213-B, scale 1:500,000 (reprint).
607. Bramkamp, R. A., and Ramirez, L. F., 1977, Geographic map of the central Arabian Gulf quadrangle, Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources Geologic Map GM-209-B, scale 1:500,000 (reprint).
608. Bramkamp, R. A., and Ramirez, L. F., 1978, Geographic map of the northern Tuwayq quadrangle, Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources Geologic Map GM-207-B, scale 1:500,000 (reprint).
609. Bramkamp, R. A., and Ramirez, L. F., 1980, Geologic map of the northern Tuyayq quadrangle, Kingdom of Saudi Arabia: Saudi Arabia Directorate General of Mineral Resources Geologic Map GM-207-A (reprint).
610. Brown, G. F., 1978, In Jiddah, Arabian-Nubian shield discussed on the spot: Geotimes, v. 23, no. 7, July 1978, p. 23-25.
611. Brown, G. F., and Jackson, R. O., 1977, Geographic map of the northeastern Hijaz quadrangle, Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources Geologic Map GM-205-B, scale 1:500,000 (reprint).
612. Brown, G. F., and Jackson, R. O., 1979, An overview of the geology of western Arabia: King Abdulaziz University Institute of Applied Geology Symposium on the evolution and mineralization of the Arabian-Nubian shield, Jiddah, February 1978, Bulletin 3, v. 1, p. 3-10.

613. Gater, F. W., 1977, Reconnaissance geology of the Wadi Salibah quadrangle, sheet 20/40B, Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources Geologic Map GM-27, scale 1:100,000.
614. Cloud, Preston, Awramik, S. M., Morrison, Karen, and Hadley, D. G., 1979, Earliest Phanerozoic or latest Proterozoic fossils from the Arabian shield, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 79-1186, ((IR)SA-260), 39 p., 5 figs., 1 table.
615. Coleman, R. G., 1975, A Miocene ophiolite on the Red Sea coastal plain [abs.]: EOS, American Geophysical Union Transactions, v. 56, no. 12, p. 1080.
616. Coleman, R. G., 1977, Geologic background of the Red Sea: Saudi Arabian Directorate General of Mineral Resources Bulletin 22, p. C1-C9.
617. Coleman, R. G., Fleck, R. J., Hedge, C. E., and Ghent, E. D., 1977, The volcanic rocks of southwest Saudi Arabia and the opening of the Red Sea: Saudi Arabian Directorate General of Mineral Resources Bulletin 22, p. D1-D30.
618. Coleman, R. G., Ghent, E. D., and Fleck, R. J., 1977, Jabal Sha'i gabbro in southwest Saudi Arabia with a section on Geophysical studies by Griscom, Andrew: Saudi Arabian Directorate General of Mineral Resources Bulletin 17, 46 p., 1 pl., 32 figs., 16 tables.
619. Coleman, R. G., Hadley, D. G., Fleck, R. J., Hedge, C. T., and Donato, M. M., 1979, The Miocene Tihama Asir ophiolite and its bearing on the opening of the Red Sea: King Abdulaziz University Institute of Applied Geology Symposium on the Evolution and mineralization of the Arabian-Nubian shield, Jiddah, February 1978, Bulletin, 3., v. 1, p. 173-186.
620. Cooper, J. A., Stacey, J. S., Stoesser, D. B., and Fleck, R. J., 1979, Evaluation of the zircon method of isotopic dating in the southern Arabian craton, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 79-1187, ((IR)SA-257), 32 p., 4 figs., 3 tables.
621. Delevaux, M. H., and Doe, B. R., 1977, Preliminary report on uranium, thorium, lead contents, and lead-isotopic composition in sediments from the Red Sea (Deep sea drilling project, LEG 23B): Saudi Arabian Directorate General of Mineral Resources Bulletin 22, p. 01-04.
622. Dodge, F. C. W., 1979, The Uyaijah ring structure, Kingdom of Saudi Arabia: U.S. Geological Survey Professional Paper 774-E, 17 p.
623. Dodge, F. C. W., Fleck, R. J., Hadley, D. G., and Millard, H. T., Jr., 1978, Geochemistry and  $Sr^{87}/Sr^{86}$  ratios of Halaban rocks of the central Arabian shield [abs.]: Institute of Applied Geology, Jeddah meeting 2/6/78, Precambrian Research, v. 6, p. A13.

624. Dodge, F. C. W., Fleck, R. J., Hadley, D. J., and Millard, H. T., Jr., 1979, Geochemistry and Sr<sup>87</sup>/Sr<sup>86</sup> ratios of Halaban rocks of the central Arabian shield: King Abdulaziz University Institute of Applied Geology Symposium on the evolution and mineralization of the Arabian-Nubian shield, Jiddah, February 1978, Bulletin 3, v. 2, p. 153-163.
625. Dodge, F. C. W., and Helaby, A. M., 1975, Mineralization in the Uyaijah-Thaaban area, west-central part of the Uyaijah ring structure, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 75-175, ((IR)SA-191), 43 p., 4 pl., 6 figs., 14 tables.
626. Dodge, F. C. W., and Millard, H. T., Jr., in press, The Uyaijah ring structure: the plutonic roots of a Precambrian epicontinental caldera [Saudi Arabia]: King Abdulaziz University Institute of Applied Geology Symposium on the evolution and mineralization of the Arabian-Nubian shield, Jiddah, February 1978, Bulletin 3.
627. Dodge, F. C. W., and Rossman, D. L., 1975, Mineralization in the Wadi Qatan area, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 75-309, ((IR)SA-190), 71 p., 1 pl., 5 figs.
628. Doebrich, J. L., and Smith, C. L., 1980, Drilling in sabkhahs of the Dhahran area, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 80-323, ((IR)SA-287).
629. Donzeau, M. A. M., 1979, Program PDP001: GENADD: U.S. Geological Survey Open-File Report 80-137, ((IR)SA-284), 19 p.
630. Donzeau, M. A. M., 1979, Program PDP002: GENDOC, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 80-127, ((IR)SA-283), 93 p.
631. Fairer, G. M., 1980, Reconnaissance Geology of the Ras Tarfa quadrangle, sheet 17/42 C, Kingdom of Saudi Arabia: Saudi Arabia Directorate General of Mineral Resources Geologic Map GM-41, scale 1:100,000.
632. Flanigan, V. J., 1975, Airborne gamma-radiation survey of the Jabal Ishmas quadrangle, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 75-190, ((IR)SA-187), 24 p., 1 pl., 5 figs., 1 table.
633. Flanigan, V. J., Merghelani, Habib, and Puffett, W. P., in press, Exploration for nickel in the Jabal Jedair area, Kingdom of Saudi Arabia: American Institute of Mining and Metallurgical Engineers.
634. Flanigan, V. J., and Pitkin, J. A., 1979, Airborne gamma-ray spectrometry survey of the Jabal Sayid area, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 79-672, ((IR)SA-247), 37 p., 15 figs.



635. Fleck, R. J., Coleman, R. G., Cornwall, H. R., Greenwood, W. R., Hadley, D. G., Schmidt, D. L., Prinz, W. C., and Ratte, J. C., 1976, Geochronology of the Arabian shield, western Saudi Arabia, K-Ar results: Geological Society of America Bulletin, v. 87, no. 1, p. 9-21.
636. Fleck, R. J., Greenwood, W. R., Hadley, D. G., Anderson, R. E., and Schmidt, D. L., 1978, Age and evolution of the southern part of the Arabian shield, Kingdom of Saudi Arabia: King Abdulaziz University Institute of Applied Geology Symposium on the evolution and mineralization of the Arabian-Nubian shield, Jiddah, February 1978, Bulletin 3, v. 3, p. 1-18.
637. Fleck, R. J., Greenwood, W. R., Hadley, D. G., Anderson, R. E., and Schmidt, D. L., 1980, Rubidium-strontium geochronology and plate tectonic evolution of the southern part of the Arabian shield: U.S. Geological Survey Professional Paper 1131.
638. Fleck, R. J., Greenwood, W. R., Hadley, D. G., and Prinz, W. C., 1973, Age and origin of tonalite-granodiorite gneisses, western Saudi Arabia: EOS, American Geophysical Union Transactions, v. 54, no. 11, p. 1226.
639. Fournier, R. O., 1977, Thermal-gradient measurements in sediments in the Atlantis II deep brine pool of the Red Sea: Saudi Arabian Directorate General of Mineral Resources Bulletin 22, p. N1-N4.
640. Gettings, M. E., 1975, Delineation of the continental margin in the southern Red Sea from new gravity evidence [abs.]: EOS, American Geophysical Union Transactions, v. 56, no. 6, p. 458.
641. Gettings, M. E., 1978, Delineation of the continental margin in the southern Red Sea region from new gravity evidence: Saudi Arabian Directorate General of Mineral Resources Bulletin 22, p. K1-K11.
642. Gettings, M. E., 1979, Preliminary results of the Sabkha Hazawza gravity project, Wadi as Sirhan area, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 79-1660, ((IR)SA-267), 12 p.
643. Ghent, E. D., Coleman, R. G., and Hadley, D. G., 1976, Ultramafic inclusions and host alkali olivine basalts of the southeast coastal plain of the Red Sea, Saudi Arabia [abs.]: American Geophysical Union Meeting, San Francisco, 12/76, American Geophysical Union, transactions, v. 57, no. 12, p. 1025.
644. Ghent, E. D., Coleman, R. G., and Hadley, D. G., 1979, Ultramafic inclusions and host alkali olivine basalts of the southern coastal plain of the Red Sea: U.S. Geological Survey Open-File Report 79-1509, ((IR)SA-244), 41 p.
645. Ghent, E. D., Coleman, R. G., and Hadley, D. G., in press, Ultramafic inclusions and host alkali olivine basalts of the southern coastal plain of the Red Sea, Saudi Arabia: American Journal of Science.

646. Gilbooy, C. F., and Skiba, W., 1978, Geology of the Rabigh quadrangle, sheet 22/39-A, Kingdom of Saudi Arabia: Saudi Arabia Directorate General of Mineral Resources Map GM-32.
647. Gonzalez, Louis, 1975, Geology of the Jabal Ishmas quadrangle, Kingdom of Saudi Arabia, with a section on Aeromagnetic studies by Flanigan, V. J.: U.S. Geological Survey Open-File Report 75-181, ((IR)SA-186), 34 p., 2 figs., 1 table, 1 pl.
648. Greene, R. C., and Gonzalez, Louis, 1979, Reconnaissance geology of the Wadi Shuqub quadrangle, sheet 20/41 A, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 79-1353, ((SA-263).
649. Greene, R. C., and Gonzalez, Louis, 1980, Reconnaissance geology of the Wadi Shuqub quadrangle, sheet 20/41 A, Kingdom of Saudi Arabia: Saudi Arabia Directorate General of Mineral Resources Geologic Map GM-54, scale 1:100,000.
650. Greenwood, W. R., 1975, Geology of the Al'Aqiq quadrangle, sheet 20/41-D, Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources Map GM-23, scale 1:100,000.
651. Greenwood, W. R., 1975, Geology of the Biljurshi quadrangle, sheet 19/41-B, Kingdom of Saudi Arabia, with a section on Geophysical investigation by Andreasen, G. E., and a section on Geochemical investigation and mineral resources, by Trent, V. A., and Killsgaard, T. H.: Saudi Arabian Directorate General of Mineral Resources Geologic Map GM-25, scale 1:100,000.
652. Greenwood, W. R., 1975, Geology of the Jabal Ibrahim quadrangle, sheet 20/41C, Kingdom of Saudi Arabia with a section on Economic geology by Worl, R. G., and Greenwood, W. R.: Saudi Arabian Directorate General of Mineral Resources Geologic Map GM-22, scale 1:100,000.
653. Greenwood, W. R., 1975, Geology of the Jabal Shada quadrangle, sheet 19/41-A, Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources Geologic Map GM-20, scale 1:100,000.
654. Greenwood, W. R., 1979, Geology of the Khadra' quadrangle, Kingdom of Saudi Arabia, with a section on Economic geology, by Roberts, R. J.: and a section on Aeromagnetic studies by Andreasen, G. E.: Saudi Arabian Directorate General of Mineral Resources Geologic Map GM-38, scale 1:100,000.
655. Greenwood, W. R., 1979, Reconnaissance geology of the An Nimas quadrangle, Kingdom of Saudi Arabia, with a section on Economic mineral deposits, by Roberts, R. J., and a section on Aeromagnetic studies, by Andreasen, G. E.: Saudi Arabian Directorate General of Mineral Resources Geologic Map GM-37, scale 1:100,000.

656. Greenwood, W. R., in press, Reconnaissance geology of the Wadi Malahah quadrangle (sheet 18/43 C), Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources Geologic Map GM-39, scale 1-100,000.
657. Greenwood, W. R., in press, Reconnaissance geology of the Wadi Wassat quadrangle (sheet 18/44 C), Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources Geologic Map GM-40, scale 1-100,000.
658. Greenwood, W. R., and Anderson, R. E., 1977, Palinspastic map of the Red Sea area prior to Miocene sea-floor spreading: Saudi Arabian Directorate General of Mineral Resources Bulletin 22, p. Q1-Q6.
659. Greenwood, W. R., Anderson, R. E., Fleck, R. J., and Roberts, R. J., 1980, Precambrian geologic history and plate-tectonic evolution of the Arabian shield: Saudi Arabian Directorate General of Mineral Resources Bulletin 24, 35 p., 15 figs., 1 pl.
660. Greenwood, W. R., Hadley, D. G., Anderson, R. E., Fleck, R. J., and Schmidt, D. L., 1975, Late Proterozoic cratonization in the southern part of the Arabian shield [abs.]: The Royal Society, Symposium, Global Tectonics in Proterozoic Times, London, Mar. 1975, p. 10.
661. Greenwood, W. R., Hadley, D. G., Anderson, R. E., Fleck, R. J., and Schmidt, D. L., 1976, Late Proterozoic cratonization in southwestern Saudi Arabia: Royal Society of London, Philosophical Transactions, v. A-280, p. 517-527.
662. Greenwood, W. R., Roberts, R. J., and Bagdady, A. Y., 1974, Mineral belts in western Saudi Arabia: Arab Conference on Mineral Resources, 2nd, 1974, Jiddah, Saudi Arabia, Conference Documents, Background Papers, Miscellaneous, p. 130-151.
663. Greenwood, W. R., Roberts, R. J., Kilsgaard, T. H., Puffet, Willard, and Naqvi, M. I., 1974, Massive sulfide deposits in the Wadi Bidah mining district, Kingdom of Saudi Arabia: Arab Conference on Mineral Deposits, 2nd, Jiddah, Conference Documents, Background Papers, Copper, p. 86-89.
664. Hadley, D. G., 1975, Geology of the Al Qunfudhah quadrangle, sheet 19/41-C, Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources Geologic Map GM-19, scale 1:100,000.
665. Hadley, D. G., 1975, Geology of the Qal'at as Sawrah quadrangle, sheet 26/38-D, Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources Geologic Map GM-24, scale 1:100,000.
666. Hadley, D. G., 1975, Geology of the Wadi Hali quadrangle, sheet 18/41-8, Kingdom of Saudi Arabia, with a section on Aeromagnetic investigations, by Andreasen, G. E.: Saudi Arabian Directorate General of Mineral Resources Geologic Map GM-21, scale 1:100,000.

667. Hadley, D. G., 1976, Geology of the Bi'r Juqjuq quadrangle, sheet 21/43-D, Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources Geologic Map GM-26, scale 1:100,000.
668. Hadley, D. G., 1979, Reconnaissance geology of the Muslayim quadrangle, sheet 19/40-B, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 80-130, ((IR)SA-272).
669. Hadley, D. G., and Fleck, R. J., 1979, Geology of the Jabal 'Afaf quadrangle, sheet 20/40-D, Kingdom of Saudi Arabia: U.S. Geological Survey open-file rept. 80-129, ((IR)SA-271).
670. Hadley, D. G., and Fleck, R. J., 1979, Reconnaissance geology of the Al Lith quadrangle, sheet 20/40C, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 80-128, ((IR)SA-270).
671. Hadley, D. G., and Greenwood, W. R., 1977, Graded layering in the Al Hadah pluton near At Ta'if, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 77-594, ((IR)SA-218), 39 p., 27 figs.
672. Hadley, D. G., and Schmidt, D. L., 1975, Nonglacial origin for conglomerate beds in the Wajid Sandstone of Saudi Arabia, in Campbell, K. S. W., Ed., Gondwana Geology: Australian National University Press, Canberra, p. 357-371. (Supersedes U.S. Geological Survey Open-File Report 74-21.)
673. Hadley, D. G., and Schmidt, D. L., 1977, Bibliography of the Red Sea, its margins, and its rift extensions: Saudi Arabian Directorate General of Mineral Resources Bulletin 22, p. R1-R42.
674. Hadley, D. G., and Schmidt, D. L., 1979, Proterozoic sedimentary rocks and basins of the Arabian shield, and their evolution, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 79-1189.
675. Hadley, D. G., and Schmidt, D. L., in press, Proterozoic sedimentary rocks and basins of the Arabian shield, and their evolution, Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources Bulletin.
676. Hall, S. A., 1979, A total intensity magnetic anomaly map of the Red Sea and its interpretation: U.S. Geological Survey Open-File Report 80-131, ((IR)SA-275).
677. Hall, S. A., Andreasen, G. E., and Girdler, R. W., 1975, A preliminary interpretation of a total-intensity magnetic anomaly map of the Red Sea [abs.]: International Union of Geodesists and Geophysicists meeting, 9/2/75.
678. Hall, S. A., Andreasen, G. E., and Girdler, R. W., 1977, Total-intensity magnetic anomaly map of the Red Sea and adjacent coastal areas, a description and preliminary interpretation: Saudi Arabian Directorate General of Mineral Resources Bulletin 22, p. F1-F15.

679. Helaby, A. M., and Dodge, F. C. W., 1975, Ancient mines in Al Kushaymiyah region, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 75-58, ((IR)SA-189), 37 p., 7 figs., 6 tables.
680. Helaby, A. M., and Dodge, F. C. W., 1977, The Jabal Guyan ancient gold mine, Wadi Malahah quadrangle (sheet 18/43D), Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 77-99, ((IR)SA-215), 26 p., 6 figs. 9 tables.
681. Hilpert, L. S., 1977, Introduction, in Red Sea Research 1970-1975: Saudi Arabian Directorate General of Mineral Resources Bulletin 22, p. A1-A2.
682. Killsgaard, T. H., 1975, Summary of activities, U.S. Geological Survey--Saudi Arabian project, 1950 to 1975: U.S. Geological Survey Open-File Report 75-492, ((IR)SA-200), 20 p., 2 figs., 1 table.
683. Killsgaard, T. H., 1976, Diamond drilling at the Ma'Milah mine, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 76-345, ((IR)SA-204), 21 p., 4 figs., 1 table.
684. Killsgaard, T. H., Greenwood, W. R., Puffett, W. F., Naqvi, M., Roberts, R. J., Worl, R. G., Merghelani, H. M., Flanigan, V. J., and Gazzaz, A. R., 1978, Mineral exploration in the Wadi Bidah district, 1972-1976, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 78-771, ((IR)SA-237), 95 p., 17 figs.
685. Lamson, R. F., and Blank, H. R., Jr., 1978, Geophysical investigations in Saudi Arabia, seismic refraction profile, status report no. 2, with a section on Operational strategy, by Healy, J. H.: U.S. Geological Survey Open-File Report 78-772, ((IR)SA-234), 83 p., 11 figs.
686. Lamson, R. F., and Leone, Laurel, 1979, Saudi Arabia seismic refraction profile data set, Volumes 1 and 2: U.S. Geological Survey Open-File Report 79-1601, ((IR)SA-298).
687. Luce, R. W., Bagdady, A. Y., and Roberts, R. J., 1974, Geology and ore deposits of the Mahd adh Dhahab mine, Kingdom of Saudi Arabia: Arab Conference for Mineral Resources, 2nd, Jiddah, Saudi Arabia, 1974, Conference Documents, Background Papers, Misc., p. 168-181.
688. Luce, R. W., Bagdady, A. Y., and Roberts, R. J., 1976, Geology and ore deposits of the Mahd adh Dhahab district, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 76-865, ((IR)SA-195), 28 p., 13 figs., 1 pl.
689. Luce, R. W., O'Neil, J. R., and Rye, R. O., 1978, Mahd adh Dhahab: Precambrian epithermal gold deposit in Saudi Arabia: U.S. Geological Survey Open-File Report 78-388, ((IR)SA-256), 36 p., 4 figs., 3 tables.

690. Madden, G. T., Naqvi, M. I., Whitmore, F. C., Jr., Schmidt, D. L., and Langston, Wann, Jr., 1980, Paleocene vertebrates from coastal deposits in the Harrat Haden area, At Taif region, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 80-227, (IR(SA-269), 32 p.
691. Martin, Conrad, Roberts, R. J., and Stoesser, D. B., 1979, Titaniferous magnetite in the layered intrusive complex at Lakathah, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 79-1210, ((IR)SA-238), 36 p., 1 fig., 1 pl., 9 tables.
692. Matzko, J. J., Flanigan, V. J., Mawad, Mustafa, Al-Koulak, Z. H., Naqvi, M. I., and Helaby, A. M., 1978, Radioactive anomaly and mineralogy of the lower part of the Tabuk Formation, Al Qassim area, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 78-520, ((IR)SA-220).
693. Matzko, J. J., and Naqvi, M. I., 1978, A summary of niobium and rare earth localities from Ha'il and other areas in western Saudi Arabia, a preliminary study: U.S. Geological Survey Open-File Report 78-773, ((IR)SA-221), 20 p., 4 figs.
694. Maxfield, N. W., and Fraser, K. G., 1975, Report on publications activities, Directorate General of Mineral Resources, Jiddah, Saudi Arabia: U.S. Geological Survey Open-File Report 75-271, 18 p.
695. Merghelani, H. M., 1979, Seismicity of the Tihamat-Asir region, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 79-1191, ((IR)SA-261), 20 p., 4 figs., 2 tables.
696. Moore, J. M., 1979, Primary and secondary faulting in the Najd fault system, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 79-1161, ((IR)SA-262), 26 p.
697. Overstreet, W. C., 1978, A geological and geochemical reconnaissance of the Tathlith one-degree quadrangle, (sheet 19/43), Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 78-1072, ((IR)SA-230), 139 p., 4 figs., 4 pl.
698. Overstreet, W. C., Hubert, A. E., Crenshaw, G. L., and Mosier, E. L., 1976, Petrogenic significance of minor elements in pyritic core from the Wadi Wassat massive sulfide deposit, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 76-863, ((IR)SA-214), 116 p., 1 fig., 22 tables.
699. Overstreet, W. C., Stoesser, D. B., Overstreet, E. F., and Goudarzi, G. H., 1977, Tertiary laterite of the As Sarat Mountains, Asir Province, Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources Bulletin 21, 30 p., 1 pl., 11 figs., 6 tables.
700. Prinz, W. C., 1975, Reconnaissance geology of the Jabal 'Aya quadrangle, Kingdom of Saudi Arabia, with a section on Aeromagnetic investigations by Andreasen, G. E.: Saudi Arabian Directorate General of Mineral Resources Geologic Map GM-17, scale 1:100,000.

701. Puffett, W. P., Flanigan, V. J., Merghelani, Habib, Killsgaard, T. H., Gonzalez, Louis, Schmidt, D. L., and Hadley, D. G., 1976, Exploration for nickel at Jabal Jedair, southeast of Ranyah, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 76-487, ((IR)SA-199), 36 p., 8 figs., 5 tables.
702. Roberts, R. J., 1976, The genesis of disseminated and massive sulfide deposits in Saudi Arabia: U.S. Geological Survey Open-File Report 76-602, ((IR)SA-207), 54 p., 23 figs., 1 table.
703. Roberts, R. J., Bagdady, A. Y., and Luce, R. W., 1978, Geochemical investigations in the Mahd adh Dhahab district, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 78-777, ((IR)SA-231), 34 p.
704. Roberts, R. J., Greenwood, W. R., Worl, R. G., Dodge, F. C. W., and Killsgaard, T. H., 1975, Mineral deposits in western Saudi Arabia--a preliminary report: U.S. Geological Survey Open-File Report 75-654, ((IR)SA-201), 60 p., 1 fig., 8 tables.
705. Roberts, R. J., Rye, R. O., and Mawad, Mustafa, 1978, Preliminary sulfur isotope investigations of mineral deposits in the Precambrian shield, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 78-776, ((IR)SA-246), 22 p., 2 figs.
706. Rooney, L. F., and Al-Koulak, Z. H., 1978, Aggregate resources of the Abha-Khamis Mushayt area, a preliminary report, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 78-775, ((IR)SA-227), 16 p., 1 fig.
707. Rooney, L. F., and Al-Koulak, Z. H., 1978, Raw materials for structural clay products in the Abha-Khamis Mushayt area, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 78-774, ((IR)SA-226), 29 p., 3 figs.
708. Rooney, L. F., and Al-Koulak, Z. H., 1979, Asbestos occurrences in serpentinites of the Hamdah area, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 79-360, ((IR)SA-239), 24 p., 3 figs.
709. Ross, D. A., 1977, Red Sea hot brine area--revisited: Saudi Arabian Directorate General of Mineral Resources Bulletin 22, p. L1-L4.
710. Ross, D. A., 1977, Results of recent expeditions to the Red Sea--Chain, Glomar Challenger, and Valdivia expeditions: Saudi Arabian Directorate General of Mineral Resources Bulletin 22, p. 81-814.
711. Ross, D. A., and Schlee, John, 1978, Shallow structure and geologic development of the southern Red Sea: Saudi Arabian Directorate General of Mineral Resources Bulletin 22, p. E1-E18.

712. Rye, R. O., Roberts, R. J., and Mawad, M. M., 1979, Preliminary sulfur isotope investigations of mineral deposits in the Precambrian shield, Kingdom of Saudi Arabia: King Abdulaziz University Institute of Applied Geology Symposium on the Evolution and mineralization of the Arabian-Nubian shield, Jiddah, February 1978, Bull. 3, v. 1, p. 131-140.
713. Schmidt, D. L., Hadley, D. G., and Stoesser, Douglas, 1978, Late Proterozoic crustal history in the Southern Najd Province, central Saudi Arabia [abs.]: Precambrian Research, v. 6, no. 1, p. A35.
714. Schmidt, D. L., Hadley, D. G., and Stoesser, D. B., 1979, Late Proterozoic crustal history of the Arabian shield, Southern Najd Province, Saudi Arabia: King Abdulaziz University Institute of Applied Geology Symposium on the Evolution and Mineralization of the Arabian-Nubian shield, Jiddah, February 1978, Bulletin 3, v. 2., p. 41-58.
715. Searle, R. S., and Ross, D. A., 1977, A geophysical study of the Red Sea axial trough between latitudes 20.5° N. and 22° N.: Saudi Arabian Directorate General of Mineral Resources Bulletin 22, p. J1-J13.
716. Shampine, W. J., Dincer, T., and Noory, M., 1979, An evaluation of isotope concentrations in the ground-water of Saudi Arabia, in Isotope Hydrology, 1978: Proceedings International Atomic Energy Agency-U.N. Educational, Scientific, and Cultural Organization International Symposium on Isotope Hydrology, Neurerberg, June 19-23, 1978, v. II, p. 443-463.
717. Shanks, W. C., and Bischoff, J. L., 1975, Sulfur isotopes and sulfide deposition in the Red Sea [abs.]: Geological Society of America Abstracts with Programs, v. 7, no. 7, p. 1266.
718. Simmons, G. C., 1980, Reconnaissance geology of the Madha quadrangle, sheet 18/43A, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 80-133, ((IR)SA-277).
719. Smith, C. W., 1979, Ancient mines of the Farah Garan area, southwestern Saudi Arabia, with a section on Reconnaissance geophysical exploration, by Blank, H. R.: U.S. Geological Survey Open-File Report 79-1659, ((IR)SA-243), 64 p.
720. Smith, C. W., 1979, Geology of the Wadi Azlam quadrangle, sheet 27/36C, Kingdom of Saudi Arabia: Saudi Arabia Directorate General of Mineral Resources Geologic Map GM-36, scale 1:100,000.
721. Smith, C. W., Anderson, R. E., and Dehlavi, M. R., 1978, Geology and ore deposits of the Kutam mine, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 78-519, ((IR)SA-211), 55 p., 15 figs., 5 tables.
722. Stacey, J. S., Delevaux, M. H., Gramlich, J. W., Doe, B. R., and Roberts, R. J., in press, A lead isotope study of mineralization in the Saudi Arabian shield: Contributions to Mineralogy and Petrology.



723. Steineke, Max, Harriss, T. F., Parsons, K. R., and Berg, E. L., 1977, Geographic map of the western Arabian Gulf quadrangle, Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources Geologic Map GM-208-B, scale 1:500,000 (reprint).
724. Stoesser, D. B., and Elliott, J. E., 1979, Post-orogenic peralkaline and calc-alkaline granites and associated mineralization of the Arabian shield, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 79-1323, ((IR)SA-265).
725. Stoffers, Peter, and Ross, D. A., 1977, Sedimentary history of the Red Sea: Saudi Arabian Directorate General of Mineral Resources Bulletin 22, p. H1-H19.
726. Theobald, P. K., and Allcott, G. H., 1975, Tungsten anomalies in the Uyaijah ring structure, Kushaymiyah igneous complex, Kingdom of Saudi Arabia, with section A, Geology and geochemistry of the Uyaijah ring structure by Theobald, P. K., and Allcott, G. H., and section B, Regional geophysics, by Flanigan, V. J., and Andreasen, G. E.: U.S. Geological Survey Open-File Report 75-657, ((IR)SA-160), 86 p., 32 figs.
727. Ward, P. E., 1976, Ground-water development and potential in Wadis Khulays and Fatimah, Saudi Arabia: U.S. Geological Survey Open-File Report 76-99, 22 p., 2 figs.
728. Wier, K. L., and Hadley, D. G., 1975, Reconnaissance geology of the Wadi Sa'diyah quadrangle, sheet 20/40A, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 75-493, ((IR)SA-193), 27 p., 1 pl., 1 fig.
729. Wilch, L. O., and North, L. D., 1979, Rock analyses storage system (RASS) Saudi Arabia: U.S. Geological Survey Open-File Report 79-591, ((IR)SA-241), 45 p., 6 figs.
730. Worl, R. G., 1978, Evaluation of Umm Al Khabath copper prospect, Jabal Ibrahim quadrangle, sheet 20/41-C, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 78-521, ((IR)SA-213).
731. Worl, R. G., 1978, Mineral exploration: Mahd adh Dhahab district, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 78-1073, ((IR)SA-233), 89 p., 3 pl., 19 figs.
732. Worl, R. G., 1978, Ore controls at the Mahd adh Dhahab gold mine, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 78-778, ((IR)SA-232), 31 p., 1 pl., 4 figs.
733. Worl, R. G., 1979, Ore controls at the Mahd adh Dhahab gold mine, Kingdom of Saudi Arabia: King Abdulaziz University Institute of Applied Geology Symposium on the Evolution and Mineralization of the Arabian-Nubian Shield, Jiddah, February 1978, Bulletin 3, v. 2, p. 93-106.

734. Worl, R. G., 1979, The Jabal Ishmas-Wadi Tathlith gold belt, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 79-1519, ((IR)SA-264).
735. Worl, R. G., in press, Gold deposits associated with the Jabal Ishmas-Wadi Tathlith fault zone, Kingdom of Saudi Arabia: Saudi Arabian Directorate General of Mineral Resources Bulletin.
736. Worl, R. G., and Flanigan, V. J., 1978, The Jabal Murryyi copper prospect, Al Aqiq quadrangle, sheet 20/41-D, Kingdom of Saudi Arabia: U.S. Geological Survey Open-File Report 78-522, ((IR)SA-212).
737. Wynn, J. C., and Blank, H. R., Jr., 1979, A preliminary assessment of the 1977 INPUT survey on the Arabian shield, Kingdom of Saudi Arabia: U.S. Geologic Survey Open-File Report 79-1508, ((IR)SA-268).
738. Young, R. A., and Ross, D. A., 1977, Volcanic and sedimentary processes in the Red Sea axial trough: Saudi Arabian Directorate General of Mineral Resources Bulletin 22, p. 11-113.
739. Zartman, R. E., 1978, Fourth International conference on geochronology, cosmochronology, and isotope geology: U.S. Geological Survey Open-File Report 78-701, 490 p.

#### SOUTH AFRICA, REPUBLIC OF

740. Ryan, B. D., Kramers, J. D., Stacey, J. S., Delevaux, M. H., Barton, J. M., Jr., and Fripp, R. E. P., in press, Strontium and lead isotopic studies and K/Rb ratio measurements relating to the origin and emplacement of the copper deposits near Messina, South Africa: in Kramers, R. D., The South African geodynamics program report on the Limpopo Belt on 6/30/80.
741. Sawkins, F. J., and Rye, R. O., 1976, The Messina copper deposits, Republic of South Africa: Ore genesis associated with an intracontinental rift zone: Geological Society of America meeting, 11/76: in Geological Society of America Abstracts with Programs, v. 74, p. 684-689.
742. Sawkins, F. J., and Rye, R. O., 1979, Additional geochemical data on the Messina copper deposits, Transvaal, South Africa: Economic Geology, v. 74, p. 684-689, 1979.
743. Szabo, B. J., 1979, Dating fossil bone from Cornelia, N. E. Orange Free State, South Africa: Journal of Archeological Science, v. 6, p. 201-203.
744. Szabo, B. J., and Butzer, K. W., 1979, Uranium-series dating of lacustrine limestones from pan deposits with final Acheulian assemblage at Rooidam, Kimberly District, South Africa: Quaternary Research, v. 11, p. 257-260.

## SPAIN

745. Addicott, W. O., and Snavelly, P. D., Jr., 1976, Reconnaissance of mollusk-bearing Neogene rocks, Almeria Province, eastern Andalusia, Spain [abs.]: Western Society of Malacologists, Annual Report, v. 9, p. 49-50.
746. Addicott, W. O., Snavelly, P. D., Jr., Bukry, J. D., and Poore, R. Z., 1978, Neogene stratigraphy and paleontology of Southern Almeria Province, Spain: An overview: U.S. Geological Survey Bulletin 1454.
747. Addicott, W. O., Snavelly, P. D., Jr., Poore, R. Z., and Bukry, J. D., in press, La secuencia Neogena marina del Campo de Dalías y del Campo de Níjar (Almeria), Spain: Estudios Geologicas.
748. Armstrong, A. K., Snavelly, P. D., Jr., and Addicott, W. O., 1980, Porosity evaluation of Upper Miocene reefs, Almeria Province, southern Spain: American Association of Petroleum Geologists Bulletin, v. 64, no. 2, p. 188-208.
749. Dillon, W. P., Greene, H. G., Robb, J. M., Lucena y Bonny, J. C., and Snavelly, P. D., Jr., 1975, Structures of the continental margin of southeastern Spain and possible active faulting in the Alboran Sea [abs.]: Geological Society of America Abstracts with Programs, v. 7, no. 7, p. 1053.
750. Greene, H. G., Garcia-Rodrigues, J. A., and Vargas, E., 1975, Preliminary beach morphology and environmental map, Adra Delta to Cabo de Gata, Spain: U.S. Geological Survey Open-File Report 75-678, 4 p., 1 pl.
751. Greene, H. G., Snavelly, P. D., Jr., and Lucena y Bonny, J. C., 1977, Neogene tectonics of the Gulf of Almeria, Almeria Province, Spain [abs.]: in Abstract of Papers, Messinian Seminar, 3rd: Universidad de Malaga y Granada.
752. Robb, J. M., Dillon, W. P., Greene, H. G., Lucena y Bonny, J. C., and Garcia-Rodriguez, J. A., 1976, Marine magnetometer measurements, Gulf of Almeria [Spain]: U.S. Geological Survey Open-File Report 76-545, 5 p.

## SRI LANKA

753. Meisler, Harold, 1977, Summary of ground-water conditions in The Jaffna Peninsula, Republic of Sri Lanka, with a plan for investigating feasibility of ground-water development: U.S. Geological Survey Open-File Report 77-558, 47 p.

## SWAZILAND

754. Barker, Fred, in press, Swaziland-Pennoscandia trondhjemite collecting expedition, 1972: National Geographic Society Research Reports.
755. Hunter, D. R., Barker, Fred, Peterman, Z. E., and Millard, H. T., Jr., 1975, Geochemistry of the Ancient Gneiss Complex of Swaziland: a preliminary report: U.S. Geological Survey Open-File Report 75-169, 16 p., 3 tables.

#### TANZANIA

756. Pike, J. E. N., Meyer, C. E., and Wilshire, H. G., in press, Petrography and chemical composition of a suite of ultramafic xenoliths from Lashaine, Tanzania: *Journal of Geology*.

#### THAILAND

757. Hite, R. J., and Japakasetr, Thawat, 1979, Potash deposits of the Khorat Plateau, Thailand and Laos: *Economic Geology*, v. 74, p. 448-458.
758. Ketruangrote, Chalomphorn, Srisaengthong, Darasri, Sriplung, Nissai, and Morgan, J. O., 1975, Satellite data receiving station. Area coverage and data acquisition parameters for a station located near Bangkok: Thailand National ERTS Programme Technical Note 750328, 12 p., 2 figs.
759. Morgan, J. O., and McCord, J. R., 1977, Handling and reproduction of Landsat imagery, with special reference to Thailand: U.S. Geological Survey Open-File Report 77-595, ((IR)TH-19), 50 p., 8 figs.
760. Showen, C. R., 1978, Developing an automated water-resources data system: Special paper for U.N. Economic and Social Commission for Asia and Pacific, Expert Working Group Meeting on Water Resource Systems, Bangkok, Thailand, April 1978, 11 p.

#### TONGA

761. Wells, J. W., 1977, Eocene corals from Eua, Tonga: U.S. Geological Survey Professional Paper 640-G, p. G1-G18, 3 pl.

#### TURKEY

762. Deutsch, Morris, 1977, Preliminary recommendations for remote sensing of terrestrial and submarine hydrogeology of the Karst Region of Turkey: DSI-UNDP Proj. TUR/77/015 Phase II, tech. rept. no. 12.
763. Dewey, J. W., 1976, Seismicity of northern Anatolia [Turkey]: *Seismological Society of America Bulletin*, v. 66, no. 3, p. 843-868.
764. Krushensky, R. D., 1975, Neogene calc-alkaline extrusive and intrusive rocks of the Karalar-Yesiller area, northwest Anatolia, Turkey: *Bulletin Volcanologique*, v. 39-2, p. 1-25.
765. Krushensky, R. D., Akcay, Yavuz, and Karaege, Erdogan, in press, Geology of the Karalar-Yesiller area, northwest Anatolia, Turkey: U.S. Geological Survey Bulletin 1471, 126 p., 1 fig., 1 table, 1 plate.
766. Leo, G. W., Marvin, R. F., and Mehnert, H. H., 1974, Geologic framework of the Kuluncak-Sofular area, east-central Turkey, and K-Ar ages of igneous rocks: *Geological Society of America Bulletin*, v. 85, Nov. 1974, p. 1785-1788.

767. Leo, G. W., Onder, Ercan, Kilic, Mehmet, and Avci, Murat, 1978, Geology and mineral resources of the Kuluncak-Sofular area (Malatya K39-a<sub>1</sub> and K39-a<sub>2</sub> quadrangles), Turkey: U.S. Geological Survey Bulletin 1429.
768. Lindsay, J. R., and Leo, G. W., 1976, Bulk chemical analyses of petrographic thin sections of rocks of the Samli area, western Turkey: U.S. Geological Survey Journal of Research, v. 4, no. 5, p. 569-574.
769. Moore, W. J., McKee, E. H., and Akinci, Omer, 1979, Chemistry and chronology of plutonic rocks in the Pontid Mountains, northern Turkey: Proceedings International Symposium on "The European Copper Deposits," Bor, Yugoslavia, September 18-22, 1979.
770. Mumpton, F. A., 1979, Reconnaissance study of the association of zeolites with mesothelioma occurrences in Turkey: U.S. Geological Survey Open-File Report 79-954, 67 p., 24 ill.
771. Page, N. J., Engin, Tandogan, and Haffty, Joseph, 1979, Palladium, platinum, and rhodium concentrations in mafic and ultramafic rocks from the Kizildag and Guleman areas, Turkey, and the Faryab and Esfandagheh-Abdasht areas, Iran: U.S. Geological Survey Open-File Report 79-840, 13 p., 6 figs.
772. Yildiz, Mehmet, and Bailey, E. H., 1979, Mercury deposits in Turkey: U.S. Geological Survey Bulletin no. 1456, 80 p.

#### UNITED ARAB EMIRATES

773. Grolrier, M. J., 1977, Interpretation of Landsat images; United Arab Emirates (preliminary report): U.S. Geological survey Open-File Report 77-297, ((IR)UAE-1), 3 p., 1 fig.

#### UNITED KINGDOM

774. Deutsch, Morris, and Moore, G. R., 1978, An experiment in techniques for environmental monitoring of offshore petroleum production areas using Landsat digital data[abs.]: COSPAR, Proceedings International Council of Scientific Unions, 21st meeting, Innsbruck, Austria, June 1978.
775. Naeser, C. W., in press, The Ordovician and Silurian of the United Kingdom: Part III; Fission-track dating: Geological Magazine.
776. Ross, R. J., Jr., Naeser, C. W., and Izett, G. A., 1977, Fission-track dating of Lower Paleozoic bentonites in British stratotypes: U.S. Geological Survey Open-File Report 77-348, 11 p., 1 pl., 2 figs.
777. Spicer, R. A., 1979, The sorting and deposition of allochthonous plant material in a modern environment at Silwood Lake, Berkshire, England: U.S. Geological Survey Open-File Report 79-1240, 260 p.
778. Szabo, B. J., and Collins, Desmond, 1975, Age of fossil bones from British interglacial sites: Nature, v. 254, p. 680-681.

779. Williams, R. S., Jr., 1975, Scientific rationale for the selection of film-filter combinations in the archaeological remote sensing experiment, Great Britain: Appendix E to Chapter 6, Elmer Harp, Jr., editor: Photography in Archaeological Research, School of American Research Advanced Seminar Series, University of New Mexico Press, Albuquerque, p. 202-210.

URUGUAY

780. Wallace, R. M., 1976, Geological reconnaissance of some Uruguayan iron and manganese deposits in 1962: U.S. Geological Survey Open-File Report 76-466, 27 p., 26 figs.

U.S.S.R.

781. Churkin, Michael, Jr., Soleimani, George, Carter, Clare, and Robinson, Rhoda, in press, Geology of the Soviet Arctic-Kola Peninsula to Lena River: Oceans and margins series, v. V, Geology of the Arctic Ocean Basin.
782. Clarke, J. W., and Rachlin, Jack, 1980, Salym--Potential giant oil field in West Siberia; possible reservoir stimulation experiment using a nuclear explosion: U.S. Geological Survey Open-File Report 80-145, 25 p.
783. Karpenko, Sergei, Delevaux, M. H., and Doe, B. R., in press, Lead isotope analyses on galenas from selected ore deposits of the USSR: Economic Geology.
784. Rojahn, Christopher, and Negmatullaev, S. H., 1975, Joint U.S.--U.S.S.R. strong motion network, Tadzhik, U.S.S.R. [abs.]: EOS, American Geophysical Union, v. 56, no. 12, p. 1025.
785. Rojahn, Christopher, Negmatulleav, S. H., Poland, C. D., Mork, P. N., and Perez, V., in press, Forced vibration test of a three-story reinforced concrete frame and pre-cast panel building in Tadzhik, U.S.S.R.: European Conference on Earthquake Engineering, 6th.
786. Till, A. B., and Page, N. J., 1979, Reported occurrences of platinum in the U.S.S.R.: U.S. Geological Survey Miscellaneous Field Studies Map MF-1071, scale (sheet 1) 1:7,500,000, (sheet 2) 1:1,700,000, (accompanied by 7 page text).
787. Wallace, R. E., 1976, The Talas-Fergana fault, Kirzigi and Kazakh, U.S.S.R.: U.S. Geological Survey Earthquake Information Bulletin, July-Aug., 1976, v. 8, no. 4, p. 4-13.
788. Wesson, R. L., Nersisov, I. L., and Fischer, F. G., 1975, Seismicity and focal mechanism studies in the Peter the First Range, Tadzhik, U.S.S.R. [abs.]: EOS, American Geophysical Union, v. 56, no. 12, p. 1025.

789. Zietz, Isidore, Eaton, G. P., Frischknecht, F. C., Kane, M. F., and Moss, C. K., 1976, A western view of mining geophysics in the U.S.S.R., 1973: Geophysics, v. 41, no. 2, p. 310-323.

#### VENEZUELA

790. Bradbury, J. P., in press, Quaternary diatom stratigraphy of Lake Valencia, Venezuela: Latin American Geological Congress, 4th, Port of Spain, Trinidad, Transactions volume.
791. Dyman, T. S., and Frost, S. H., 1980, Analysis of measurement for a large sample of *Lepidocyclina*, an Eocene orbitoid Foraminifera from Isla de Margarita, Venezuela: U.S. Geological Survey Open-File Report 80-900, 54 p.
792. Fary, R. W., Jr., 1980, A review of the geology of petroleum in Venezuela: U.S. Geological Survey Open-File Report 80-782, 49 p., 21 figs., 2 tables.

#### VIETNAM

793. Anderson, H. R., 1978, Hydrogeologic reconnaissance of the Mekong Delta in South Vietnam and Cambodia: U.S. Geological Survey Water-Supply Paper 1608-R, 24 p., 3 pl., 3 figs.

#### YEMEN

794. Grolier, M. J., Domenico, J. A., Donato, M. M., Tibbitts, G. C., Jr., and Overstreet, W. C., 1977, Data from geologic investigations in the Yemen Arab Republic during 1976: U.S. Geological Survey Open-File Report 77-733, ((IR)Y-12), 108 p., 8 figs.
795. Grolier, M. J., and Overstreet, W. C., 1976, Preliminary geologic map of North Yemen region, north of San'a, Yemen Arab Republic, Landsat-1 image no. 1189-06555: U.S. Geological Survey Open-File Report 76-741, ((IR)Y-5), scale 1:500,000.
796. Grolier, M. J., and Overstreet, W. C., 1976, Preliminary geologic map of region east of Sa'dah, Yemen Arab Republic, Landsat-1 image no. 1117-06553: U.S. Geological Survey Open-File Report 76-740, ((IR)Y-4), scale 1:500,000.
797. Grolier, M. J., and Overstreet, W. C., 1976, Preliminary geologic map of the northeastern region, Yemen Arab Republic, Landsat-1 image no. 1152-06501: U.S. Geological Survey Open-File Report 76-744, ((IR)Y-9), scale 1:500,000.
798. Grolier, M. J., and Overstreet, W. C., 1976, Preliminary geologic map of the northwestern region, Yemen Arab Republic, Landsat-1 image no. 1136-07012: U.S. Geological Survey Open-File Report 76-737, ((IR)Y-1), scale 1:500,000.

799. Grolier, M. J., and Overstreet, W. C., 1976, Preliminary geologic map of the San'a, Qa'tabah, Ibb, Zabib, and Bajil area, Yemen Arab Republic, Landsat-1 image no. 1189-06561: U.S. Geological Survey Open-File Report 76-742, ((IR)Y-6), scale 1:500,000.
800. Grolier, M. J., and Overstreet, W. C., 1976, Preliminary geologic map of the southeastern region, Yemen Arab Republic, Landsat-1 image no. 1206-06504: U.S. Geological Survey Open-File Report 76-745, ((IR)Y-10), scale 1:500,000.
801. Grolier, M. J., and Overstreet, W. C., 1976, Preliminary geologic map of the Ta'iz region, Yemen Arab Republic, Landsat-1 image no. 1189-06564: U.S. Geological Survey Open-File Report 76-743, ((IR)Y-7), scale 1:500,000.
802. Grolier, M. J., and Overstreet, W. C., 1976, Preliminary geologic map of Tihama and the Red Sea escarpment, north of Bajil, Yemen Arab Republic, Landsat-1 image no. 1136-07015: U.S. Geological Survey Open-File Report 76-738, ((IR)Y-2), scale 1:500,000.
803. Grolier, M. J., and Overstreet, W. C., 1976, Preliminary geologic map of Tihama between Zabib and Hudaydah, Yemen Arab Republic, Landsat-1 image no. 1118-07021: U.S. Geological Survey Open-File Report 76-739, ((IR)Y-3), scale 1:500,000.
804. Grolier, M. J., and Overstreet, W. C., 1978, Geologic map of the Yemen Arab Republic (San'a'): U.S. Geological Survey Mineral Investigations Map I-1143B, scale 1:500,000.
805. Grolier, M. J., Overstreet, W. C., Tibbitts, G. C., Jr., Davidson, D. F., and Ibrahim, M. M., 1978, Preparation of a geologic photo map and hydrologic study of the Yemen Arab Republic, U.S. Geological Survey Open-File Report 78-770, ((IR)Y-13), 20 p., 4 figs.
806. Grolier, M. J., Tibbitts, G. C., Jr., and Ibrahim, M. M., 1980, A qualitative appraisal of the hydrology of the Yemen Arab Republic from Landsat images: U.S. Geological Survey Open-File Report 80-565, 103 p., 6 figs., 1 plate, 2 tables.
807. MacDonald, W. R., and Morrison, C. E., 1975, Mapping the Wadi Mawr, Yemen Arab Republic: American Congress of Surveying and Mapping Proceedings, 35th Annual Meeting, March 9-14, 1975.
808. Overstreet, W. C., and Domenico, J. A., Grolier, M. J., Tibbitts, G. C., Jr., and Ibrahim, M. M., 1976, Trace elements in some rocks and slag from the Yemen Arab Republic and their bearing on the iron ore near Sa'dah: U.S. Geological Survey Open-File Report 76-264, ((IR)Y-8), 70 p., 10 figs., 13 tables.
809. Overstreet, W. C., Donato, M. M., Grolier, M. J., Domenico, J. A., Crenshaw, G. L., and Tibbitts, G. C., Jr., 1980, Petrographic and trace-element data on rocks from the Yemen Arab Republic: U.S. Geological Survey Open-File Report 80-132, ((IR)Y-15), 62 p.



810. Overstreet, W. C., and Grolier, M. J., in press, Iron ore near Sa'dah, Yemen Arab Republic: Geochemical implications for future economic development of an archeo-metallurgical site: Commemorative Volume for Dr. P. E. P. Deraniyagala, Former Director, Sri Lanka National Museum Department.
811. Riggs, H. C., 1977, A brief investigation of the surface-water hydrology of Yemen Arab Republic: U.S. Geological Survey Open-File Report 77-150, 37 p., 16 figs., 3 tables.
812. Tibbitts, G. C., Jr., and Aibel, James, 1980, Ground-water resources investigation in the Amran Valley, Yemen Arab Republic: U.S. Geological Survey Open-File Report 80-774, 138 p., 17 figs., 1 plate, 7 tables.
813. U.S. Geological Survey, 1978, Geographic map of the Yemen Arab Republic (San'a'): U.S. Geological Survey Mineral Investigations Map I-1143A, scale 1:500,000.

#### YUGOSLAVIA

814. Lanphere, M. A., Coleman, R. G., Karamata, S., and Pamic, J., 1975, Age of amphibolites associated with alpine peridotites in the Dinaride ophiolite zone, Yugoslavia: Earth and Planetary Science Letters, v. 26, no. 3, p. 271-276.

#### ZAIRE

815. Deutsch, Morris, 1977, Transfert de la technologie de l'Espace et Developpement des Ressources Naturelles de l'Afrique: U.S. Information Service bi-national Colloquium, Kinshasa, Zaire.

#### TAIWAN

816. Bonilla, M. G., 1975, A review of recently active faults in Taiwan: U.S. Geological Survey Open-File Report 75-41, 65 p., 9 figs., 5 photographs, 1 table.
817. Matzko, J. J., and Overstreet, W. C., 1977, Black monazite from Taiwan: Geological Society of China Proceedings, no. 20, p. 16-35, 1 fig., 7 pl., 2 tables.

INDEXES

AUTHOR INDEX

	Ref. <u>No.</u>
A	
Aaron, Obiabaka -----	473
Abbas, S. H. -----	525
Abbate, Ernesto -----	358
Abbot, E. A. -----	179
Abdullah, S. K. M. -----	516
Abrams, M. J. -----	326
Addicott, W. O. -----	186, 745-748
Ahmad, M. I. -----	524
Akashen, B. -----	350
Akcay, Yavuz -----	765
Akinci, Omer -----	769
Albert, N. R. -----	42
Aldrich, L. T. -----	584
Algermissen, S. T. --	123, 124, 126, 558, 559
Al-Hinai, K. M. -----	480-482
Ali, S. T. -----	516
Al-Koulak, Z. H. -----	692, 706-708
Allcott, G. H. -----	405-407, 415, 433, 726
Allen, C. R. -----	235
Allen, Steve -----	597
Alpha, T. R. -----	554
Al-Shanti, A. M. -----	585
Alvarez, A. -----	241
Anderson, H. R. -----	793
Anderson, R. E. -----	586-589, 595, 636, 637, 658-661, 721
Anderson, R. J. -----	161
Anderson, Robert -----	189
Ando, Masataka -----	360, 361, 368
Andreasen, G. E. -----	594-596, 677, 678
Andrews, J. T. -----	187
Angsuwathana, Prayong -----	42
Appleman, D. E. -----	308
Appleman, M. H. -----	308
Arango C., J. L. -----	246
Arce, H. M. -----	250
Aristarain, L. F. -----	125

Armstrong, A. K. -----	748
Armstrong, R. L. -----	191
Arsenault, L. D. -----	193
Arth, J. G. -----	188
Aruscavage, P. J. -----	287
Aubel, James -----	812
Avci, Murat -----	767
Awramik, S. M. -----	614

B

Back, William -----	351, 408-410
Bagdady, A. Y. -----	590, 662, 687, 688, 703
Bailey, E. H. -----	1, 195, 196, 345, 479-482, 484, 485, 772
Baker, M. W. Goda -----	383
Ball, M. M. -----	147
Ballon A., Raul -----	154, 155, 208, 209
Bally, A. W. -----	235
Banwell, C. J. -----	458
Barger, K. E. -----	490
Barker, Fred -----	754, 755
Barnes, Ivan -----	491
Barnes, J. W. -----	1, 195, 196, 345
Barrero, Dario -----	245
Barton, J. M., Jr. -----	740
Barton, P. B., Jr. -----	362
Behrendt, J. C. -----	391
Beikman, H. M. -----	386
Benitez, George -----	422, 423
Benitz-Muro, J. A. -----	448
Berdan, J. M. -----	159
Berg, E. L. -----	723
Berge, J. W. -----	387
Bergin, M. J. -----	379
Bergquist, W. E. -----	2, 3, 70
Berlin, G. L. -----	371
Bhuyan, K. -----	515
Billings, T. M. -----	416-418
Bischoff, J. L. -----	717
Bjornsson, Helgi -----	325
Blade, L. V. -----	241
Blain, C. F. -----	591
Blakely, R. J. -----	555
Blank, H. R., Jr. -----	592-597, 685, 737
Blodget, H. W. -----	598-600
Bock, W. -----	147

Bodvarsson, Agust	324
Bollinger, G. A.	126, 282, 299
Bonilla, M. G.	302, 816
Bonis, S. B.	302
Bosio, N. J.	177, 178, 225
Botbol, J. M.	4
Bothner, W. A.	98
Bowen, R. W.	601
Bowman, H. R.	564, 568
Boyd, W. W., Jr.	104, 105
Brabb, E. E.	511
Bradbury, J. P.	790
Bradford, G. M.	375
Brady, A. G.	581
Brady, M. J.	447
Bramkamp, R. A.	602-609
Breed, C. S.	270, 562
Brinkman, W. L. F.	172
Brock, A.	376
Brock, M. R.	383
Brockman, C. E.	152, 153, 208-210
Brown, G. F.	372, 464, 584, 598, 599, 602, 603, 610-612
Bryan, W. B.	5
Bucknam, R. C.	124, 290, 302
Bufe, C. G.	284, 285
Bukry, J. D.	746, 747
Bunker, C. M.	137
Bush, C. A.	137
Butzer, K. W.	744
Byers, V. P.	6, 7

C

Cadle, R. D.	303
Cain, J. C.	65
Caire, L. F.	411, 428
Calkins, F. C.	261, 515, 516
Calkins, J. A.	551
Cameron, R. E.	100
Campbell, W. J.	117-119, 121, 193
Canney, F. C.	8
Cargill, S. M.	9-11
Carneggie, D. M.	138
Carrigan, P. H., Jr.	533
Carter, Clare	781

Carter, W. D. -----	12-22, 42, 49, 50, 58, 89, 152, 153, 202-211, 242, 342, 492
Carver, D. L. -----	282-284
Carydis, P. G. -----	581
Castano, J. C. -----	123, 124, 126, 130
Castillo M., Rolando -----	256-258
Castor, Nestor -----	245
Cataldi, R. -----	354
Cater, F. W. -----	613
Cathcart, J. B. -----	162, 163, 243
Cathey, C. A. -----	114, 115
Chang, T. C. -----	118, 121
Chao, E. C. T. -----	308
Chaffie, M. A. -----	411, 428
Chatterjee, S. -----	333
Chavez, Luis -----	422, 423
Chavez, P. S., Jr. -----	371, 473
Chermak, A. -----	147
Cherroni M., Carlos -----	156
Chidester, A. H. -----	383
Chong, D. G. -----	213
Chun, H. Y. -----	380
Churkin, Michael, Jr. -----	781
Cifuentes, I. L. -----	307
Circum-Pacific Map Project -----	493, 494
Clague, D. A. -----	255
Clark, A. L. -----	9, 10, 23, 24
Clark, F. E. -----	267
Clarke, J. W. -----	782
Claypool, G. E. -----	496
Cloud, Preston -----	614
Coe, R. S. -----	429, 430
Coleman, R. G. -----	25, 480-482, 484, 485, 487, 615-619, 635, 643-645, 814
Collins, Desmond -----	778
Colvocoresses, A. P. -----	329
Commeau, R. F. -----	289
Conant, L. C. -----	401
Condit, D. D. -----	261
Condon, W. H. -----	334
Cook, J. L. -----	24
Cooke, W. -----	261
Cooley, M. R. -----	95
Coonrad, W. L. -----	384
Cooper, J. A. -----	620
Cooper, Margaret -----	220, 222
Copler, T. B., II -----	455

Cornwall, H. R. -----	635
Coury, A. B. -----	26-29
Cox, A. -----	376
Crenshaw, G. L. -----	698, 809
Cruz B., Jaime -----	252-254
Cserna, Zoltan de -----	412
Cunningham, C. G. -----	355
Curry, John -----	160
Curtis, W. F. -----	173-178, 225
Cuttitta, Frank -----	308
Czamanske, G. K. -----	30

D

Dalrymple, G. B. -----	255, 385
D'Amore, Franco -----	356
Danilchik, Walter -----	517, 518
Davidson, D. F. -----	31, 96, 805
Davis, D. A. -----	495
Davis, G. H. -----	32
Davis, W. E. -----	259
Davis, W. M. -----	65
Dean, W. E. -----	496, 501
Dehlavi, M. R. -----	721
Delaney, B. M. -----	174, 177, 225
de las Casas, J. -----	561
Delevaux, M. H. -----	281, 412, 621, 722, 740, 783
Delgadillo, Edgar -----	161
De Los Santo, V. C. -----	574
Denman, J. M. -----	271, 514
De Noyer, J. M. -----	492
Desmons, Jacqueline -----	357
Deutsch, Morris -----	33, 97, 189, 519, 539
762, 774, 816	
Dewey, J. W. -----	763
de Wit, M. P. -----	450, 451
Dickson, F. W. -----	352
Dillon, W. P. -----	749, 752
Dincer, T. -----	716
Dinnin, J. I. -----	308
Dobrovolny, Ernest -----	469, 470
Dodge, F. C. W. -----	622-627, 679, 680, 704
Doe, B. R. -----	281, 338, 363, 621, 722, 783
Doeblich, J. L. -----	628
Domenico, J. A. -----	92, 794, 809, 809
Donato, M. M. -----	619, 794, 809
Donzeau, M. A. M. -----	629, 630

Douglass, R. C. -----	229
do Vale, C. M. -----	175, 176
Drake, A. A., Jr. -----	164, 165
Drew, David -----	351
Drexler, J. W. -----	563
Duffield, W. -----	277
Dunbar, J. D. N. -----	388
Dwornik, E. J. -----	308, 353
Dyman, T. S. -----	791

## E

Eaton, G. P. -----	789
Edmond, J. M. -----	175, 176
Ege, V. R. -----	471
Egyptian Geological Survey and Mining	
Authority -----	268, 269
El-Baz, Farouk -----	270
El-Boushi, I. M. -----	480-482
Elliot, J. E. -----	724
Endeshaw, Abebaw -----	276
Engdahl, E. R. -----	364
Engin, Tandogan -----	771
England, A. W. -----	101
Erd, R. C. -----	125
Ericksen, G. E. -----	34-38, 154, 155, 212, 213
230-232, 234, 497, 498, 556, 557, 560, 569	
Erickson, A. J. -----	499
Erickson, R. L. -----	39
Eshghi, I. -----	350
Espinosa, A. F. -----	291-293, 468, 558, 559, 561
Espiritu, Ernesto -----	575
Estes, J. E. -----	33
Evans, J. G. -----	244
Evernden, J. F. -----	156
Eyzaguirre, V. R. -----	570

## F

Fabbi, B. P. -----	564
Fairer, G. M. -----	631
Falconer, Allan -----	189
Fary, R. W., Jr. -----	197-198, 792
Fausto, J. -----	437, 438, 454
Fehn, U. -----	499
Feininger, Tomas -----	245, 262
Ferguson, John -----	139, 140

Ferguson, John	139, 140
Ferrigno, J. G.	40, 41, 90
Finkelman, R. B.	353
Fischer, F. G.	788
Fischer, W. A.	16, 42, 132, 500
Fisher, Fred	597
Fiske, R. S.	278
Flanigan, V. J.	632-634, 684, 692, 701, 736
Fleck, R. J.	127, 617-620, 623, 624, 635-638, 659-661, 669, 670
Fleischer, R. L.	436
Fleming, R. W.	294
Force, E. R.	386-388
Ford, A. B.	100, 102-106
Fournier, R. O.	413, 639
Fraser, R. G.	694
Friedman, Irving	172, 303
Friedman, J. D.	263, 311, 365, 458
Fries, Carl, Jr.	414
Fripp, R. E. P.	740
Frischknecht, F. L.	789
Frisken, J. G.	415-418
Fritz, E. B.	520
Frost, S. H.	791
Fryxell, Roald	446
Fudali, R. F.	140
Fuente-Duch, M. F. de la	415, 519, 424-426, 442, 443
Fujioka, Kantaro	369
Fullerton, D. S.	190
Furnish, W. M.	459, 460

## G

Garcia-Rodriques, J. A.	750, 752
Gardner, J. V.	501
Garrison, R. E.	133, 380, 575
Gawarecki, S. J.	43, 458, 473
Gazzaz, A. R.	684
Geirhart, R. D.	603
George, R. P., Jr.	260
Gerard, A.	277
Gettings, M. E.	596, 640-642
Geyer, R. B.	235
Ghani, M. A.	521, 522
Ghent, E. D.	192, 617, 618, 643-645
Gilboy, C. F.	646



Gill, H. E. -----	276
Gillespie, A. R. -----	179
Girard, O. W., Jr. -----	236, 472
Girdler, R. W. -----	677, 678
Glenn, C. R. -----	271
Gloersen, Per -----	117-119, 121
Goldsmith, Richard -----	252-254
Gomez, Arturo -----	405-407
Gomez R., Eduardo -----	252, 254
Gonzalez, Louis -----	647-650, 701
Gott, G. B. -----	4
Goudarzi, G. H. -----	214-220, 401-404, 699
Graetz, R. P. -----	138
Gramlich, J. W. -----	722
Grantz, Arthur -----	557
Green, K. E. -----	88
Greene, H. G. -----	749-752
Greene, R. C. -----	648, 649
Greenwood, W. R. -----	635-638, 650-663, 671, 684, 704
Gregory, R. T. -----	484
Griffitts, W. C. -----	471
Grolier, M. J. -----	148, 270, 381, 483, 560, 562, 579, 773, 794-806, 808-810
Gromme, C. S. -----	385, 502
Grossling, B. F. -----	221, 420
Grow, J. A. -----	169
Grow, T. E. -----	371
Gudmundsson, Bragi -----	325, 326
Gunther, F. J. -----	600

## H

Hacker, R. -----	138
Hadley, D. G. -----	614, 619, 623, 624, 635-638, 643-645, 660, 661, 664-675, 701, 713, 714, 728
Haffty, Joseph -----	287, 537, 771
Hall, Minard -----	264
Hall, R. B. -----	241
Hall, S. A. -----	676-678
Halley, R. B. -----	150, 151
Hamilton, W. B. -----	235, 335-337
Hanna, W. F. -----	344
Hanshaw, B. B. -----	408, 410
Harakal, J. E. -----	191
Harbour, R. L. -----	521, 522
Harding, S. T. -----	124

Harlow, D. H. -----	265, 305-307
Harms, J. E. -----	139
Harp, E. L. -----	294, 295, 366
Harris, D. C. -----	412
Harrison, C. G. A. -----	147
Harrison, J. E. -----	421
Harrison, T. M. -----	191
Harriss, T. F. -----	723
Hassan, Mamnoon -----	529, 530
Hassanzadeh, Sramak -----	555
Haynes, D. D. -----	166
Healy, J. H. -----	597
Hedge, C. E. -----	340, 389, 564, 584, 617, 619
Heezen, B. C. -----	503
Heidt, L. E. -----	303
Heiken, Grant -----	263, 365
Hein, J. R. -----	44
Heindl, L. A. -----	45
Helaby, A. M. -----	625, 679, 680, 692
Hendricks, T. A. -----	26-29
Henrisey, R. G. -----	283, 284, 299
Herd, D. G. -----	246
Heropoulos, C. E. -----	564
Herz, Norman -----	167, 168
Hillhouse, J. W. -----	376
Hilpert, L. S. -----	681
Himmelburg, G. R. -----	106
Hinkle, M. E. -----	422, 423
Hinkley, T. K. -----	286
Hite, R. J. -----	757
Hobart, M. A. -----	88
Hoblitt, R. P. -----	274
Holland, H. D. -----	499
Holm, D. A. -----	602
Hoose, S. N. -----	296, 297
Hoover, Linn -----	46
Hopkins, D. M. -----	120
Hopson, C. A. -----	235, 484, 485, 487
Horan, L. J. -----	575
Hoshino, Kazuo -----	42
Houston, J. R. -----	462
Houtz, R. E. -----	169
Howell, D. G. -----	466, 467
Hubert, A. E. -----	92, 698
Hudson, J. H. -----	150, 151
Huebert, B. J. -----	303
Huebner, M. A. -----	455

Huffman, A. C. -----	372
Hunter, D. R. -----	755
Husid, R. -----	468, 558, 559, 561
Hussain, A. -----	515
Hussain, Fida -----	530
Hussain, Muzaffar -----	532
Huston, C. C. -----	480-482
Hutt, C. R. -----	157

## I

Ibrahim, A. K. -----	298
Ibrahim, M. M. -----	805, 806
Indranbarya, Boon -----	79
Ingram, B. L. -----	308
Irving, E. M. -----	247
Isaac, G. L. -----	376
Isherwood, W. -----	187
Iwasaki, T. -----	54
Izett, G. A. -----	776

## J

Jackson, E. D. -----	504
Jackson, R. O. -----	603, 611, 612
Jackson, W. H. -----	259
Jacob, K. -----	543
Jaeger, J. C. -----	142, 145
Jakobsson, Sveinn -----	311
Jamaluddin, S. -----	515
Japakasetr, Thawat -----	757
Jaques, Lynton -----	140
Jaramillo C., Luis -----	253
Jarrard, R. D. -----	255
Jimenez, Alfredo -----	454
Jimeno V., Andres -----	254
Johnson, G. D. -----	523
Johnson, N. M. -----	523
Jones, Mel -----	338
Jordan, J. N. -----	275

## K

Kane, M. F. -----	789
Karaege, Erdogan -----	765
Karamata, S. -----	814
Karkowski, Lukasy -----	576

Karpenko, Sergei -----	783
Kastowo -----	339
Kebblish, William -----	521
Keefer, D. K. -----	131, 367
Kellogg, K. S. -----	107
Kelly, W. C. -----	578
Ketner, K. B. -----	334, 339
Ketruangrote, Chalomphorn -----	758
Khan, A. A. -----	545
Khan, M. A. -----	149
Khan, Mujib-ur -----	520
Khan, Shamsheer -----	546
Khattri, K. N. -----	330, 331
Kiilsgaard, T. H. -----	663, 682-684, 701, 704
Kilic, Mehmet -----	767
Kirkemo, Harold -----	158
Kleinkopf, M. D. -----	415, 419, 424-426, 442, 443
Klemic, Harry -----	220, 222
Klinger, F. L. -----	524, 525
Knott, J. M. -----	47, 48
Knudson, C. F. -----	223, 427
Kowalik, W. S. -----	207-210
Kozlowski, Andrezej -----	576
Kramers, J. D. -----	740
Krinsley, D. B. -----	347
Kriz, Jiri -----	159
Kriz, S. J. -----	156
Krueger, A. F. -----	266
Krushensky, R. D. -----	256-258, 469, 470, 764, 765
Kuhn, P. M. -----	119
Kummel, Bernhard -----	526, 527
Kutina, Jan -----	49, 50

L

LaCruz, Juan -----	557
Ladd, J. W. -----	298
Lambert, P. W. -----	429, 430
Lamson, R. F. -----	597, 685, 686
Landim, P. M. B. -----	178
Landis, E. R. -----	248, 521
Langer, C. J. -----	124, 126, 299, 572
Langston, Wann, Jr. -----	690
Lanphere, M. A. -----	338, 486, 487
Latham, G. V. -----	298

Lathram, E. H.	42
Lauer, D. T.	51, 52, 82
Layne, N. M., Jr.	602
Lazrus, A. L.	303
Lazzarotto, A.	354
Lee, Tien-chang	88
Lee, W. H. K.	53
Lee, Y. G.	380
Lee-Moreno, J. L.	405-407, 411, 415, 428 442, 443, 448, 449
Lendon, C.	138
Leo, G. W.	170, 340, 768-770
Leone, Laurel	686
Lesser, J. M.	409, 410
Lichtman, G. S.	505
Liddicoat, J. C.	429, 430
Lidz, Barbara	150, 151
Lindsay, J. R.	770
Lindsey, D. A.	171
Lofgren, B. E.	431
Loguercio, Sabino	179
Low, Doris	122
Lozando, Hernando	245
Lucas, A. F.	2
Luce, R. W.	687-689, 703
Lucena y Bonny, J. C.	749, 751, 752
Ludwig, W. J.	169

## M

MacDonald, W. R.	807
Mack, L. E.	380, 575
Madden, G. T.	690
Mahoney, H. A.	174
Malavassi V., Enrique	257, 258
Malberg, G. T.	523
Malde, H. E.	446
Maley, R. P.	284
Mankinen, E. A.	127, 502
Manon, Alfredo	452-454
Marinenko, J. W.	234
Marroof, M. A.	149
Marshall, C. M.	506
Marshall, Monte	490
Marshall, N. F.	445
Martin, Conrad	691
Martinez, Maximiliano	275

Marvin, R. F. -----	340, 389, 584, 766
Massey, B. L. -----	431, 432
Masters, C. D. -----	236
Matsuda, Tokihiko -----	361, 368
Matsui, E. -----	172
Matzko, J. J. -----	166, 525, 529-531, 692, 693, 818
Maughan, E. K. -----	249
Mawad, M. M. -----	692, 705, 712
Maxfield, N. W. -----	694
McCammon, R. B. -----	4
McCauley, J. F. -----	270, 560, 562
McCord, J. R. -----	759
McDanal, S. K. -----	422, 423
McGuire, R. K. -----	54
McKay, D. S. -----	365
McKee, E. D. -----	55
McKee, E. H. -----	563, 565-567, 769
McKelvey, V. E. -----	373, 507
McLaughlin, D. H. -----	250
McLearn, Robert -----	597
McLoughlin, P. A. -----	445
McMillen, K. J. -----	298
Meade, R. H. -----	173-178, 225
Mecklenburg, T. N. -----	326
Megard, Francois -----	567, 568
Mehnert, H. H. -----	108, 766
Meisler, Harold -----	753
Meissner, C. R. -----	532
Mendoza, Jose -----	563
Mendoza, Carlos -----	246
Mercer, J. H. -----	127
Merghelani, H. M. -----	633, 684, 695, 701
Meyer, C. E. -----	756
Meyer, Gerald -----	474
Meyer, Hansjürgen -----	246
Meyer, R. F. -----	11, 56
Miesch, A. T. -----	57
Milburn, G. T. -----	142
Millard, H. T., Jr. -----	623, 624, 626, 755
Miller, C. D. -----	264, 265
Miller, R. L. -----	2, 58, 81, 224, 228, 233
Milliman, J. D. -----	169
Milton, Charles -----	308, 353, 462
Milton, D. J. -----	93, 139, 140, 347
Modjo, Subroto -----	339
Moik, J. G. -----	599

Molnar, P. H. -----	235
Monroy, Guillermo -----	416-418
Moore, B. R. -----	141
Moore, G. R. -----	774
Moore, G. W. -----	369
Moore, J. G. -----	5, 30, 327, 328
Moore, J. M. -----	696
Moore, W. J. -----	769
Morgan, B. A. -----	165
Morgan, J. O. -----	59, 79, 758, 759
Morgan, J. W. -----	332
Morin, Juan -----	434, 435
Mork, P. N. -----	785
Morrison, C. E. -----	807
Morrison, Karen -----	614
Mosier, E. L. -----	411, 433-435, 698
Moss, C. K. -----	789
Moxham, R. M. -----	279
Mrose, M. E. -----	234
Muffler, Patrick -----	354
Mullineaux, D. R. -----	264, 265
Mumpton, F. A. -----	772
Mundorff, M. J. -----	377, 533
Munroe, R. J. -----	137, 142, 145
Myers, J. S. -----	287
Myers, L. C. -----	189
Mytton, J. W. -----	534

N

Nackowski, M. P. -----	1, 195, 196, 345
Naeser, C. W. -----	191, 339, 355, 389, 436, 523, 775, 776
Nagell, R. H. -----	185, 535, 536
Nagle, F. -----	147
Nahass, Samir -----	181, 182
Naqvi, M. I. -----	663, 684, 690, 692, 693
Ndombi, J. W. M. -----	376
Negmatullaev, S. H. -----	784, 785
Nehring, N. L. -----	359, 437, 438, 455
Nelson, C. H. -----	120
Nelson, W. H. -----	101, 105, 111
Nersescv, I. L. -----	788
Nestell, M. K. -----	229, 459, 460
Neuman, R. B. -----	477
Nichols, F. H. -----	280
Nicolli, H. B. -----	125

Nilsen, T. H. -----	358
Noble, D. C. -----	563-567, 571
Noory, M. -----	716
Nordin, C. F., Jr. -----	173-178, 225
Normark, W. R. -----	505
North, L. D. -----	729

O

Obradovich, J. D. -----	339
Obregon-Perez, Alberto -----	414
Oca, I. M. de -----	161
Offield, T. W. -----	179, 489, 516
Oldham, J. B. -----	114, 115
O'Leary, Dennis -----	424
Olive, W. W. -----	226, 251
Oliver, J. E. -----	235
Olson, E. R. -----	455
Onder, Ercan -----	767
O'Neil, J. R. -----	192, 357, 689
Ontiveras, Hector -----	434, 435
Opdyke, N. D. -----	235, 523
Orr, D. G. -----	60
Orsini, N. -----	350
Ortiz, Antonio -----	434, 435, 456
Ota, Yoko -----	361, 368
Overstreet, E. F. -----	699
Overstreet, W. C. -----	92, 471, 473, 697-699

794-805, 808-810, 817

P

Page, N. J. -----	287, 537, 772, 786
Page, R. A. -----	300
Pallister, J. S. -----	484, 485
Pamic, J. -----	814
Pardyanto, Liek -----	334
Parker, N. A. -----	149
Parkinson, H. L. -----	272
Parsons, K. R. -----	723
Paulson, R. W. -----	17
Pawlowska, Jadwiga -----	577
Pearson, F. J., Jr. -----	455
Perez, G. -----	456
Perez, Virgilio -----	130, 581, 582, 785
Perkins, D. M. -----	330, 331



Perry, R. B. -----	120
Person, W. J. -----	246
Peterman, Z. E. ----- 25, 421, 478,	755
Peterson, D. L. ----- 419, 425,	426
Peterson, Jon -----	61
Peterson, L. R. -----	474
Pettinger, L. R. -----	62
Picklyk, D. D. -----	11
Pike, J. E. N. -----	756
Pitkin, J. A. -----	634
Plafker, George ---- 235, 301, 302, 557, 569,	570
Podwysocki, M. H. ----- 63, 237,	600
Pohn, H. A. ----- 199, 348, 488,	489
Pojeta, John, Jr. -----	159
Poland, C. D. -----	785
Ponce, Benjamin ----- 416-418	
Poore, R. Z. ----- 746,	747
Preble, D. M. -----	311
Prince, Jorge -----	427
Prinz, W. C. ----- 635, 638,	700
Puffett, W. P. ----- 663, 684,	701
Pyle, T. E. -----	408

## R

Rabchevsky, G. A. -----	539
Rachlin, Jack -----	782
Radtke, A. D. -----	352
Rahman, Hamidur -----	538
Raines, G. L. ----- 415, 419, 424-426, 439-443	
Ramirez, L. F. ----- 604-609	
Ramirez, Octavio -----	245
Ramseier, R. O. ----- 117-119, 121,	193
Randall, A. D. -----	533
Randerson, Darryl -----	365
Rashid, M. A. -----	532
Rasmussen, W. C. -----	375
Ratte, J. C. -----	635
Raup, O. B. -----	64
Reed, B. L. ----- 57, 160,	338
Regan, R. D. ----- 65,	201
Reinemund, J. A. ----- 66-73,	349
Reinnitz, E. ----- 444,	445
Restrepo, Hernan ----- 252,	254
Reynolds, C. D. -----	342
Rich, E. I. -----	42
Richards, P. W. ----- 341, 343, 508,	509

Richardson, E. S. -----	147
Richter, D. H. -----	259
Rico H., Hector -----	241
Riggs, H. C. -----	811
Rinker, J. N. -----	211
Rist, Sigurjon -----	324
Ritter, J. R. -----	128, 129
Robb, J. M. -----	749, 752
Robbin, D. M. -----	151
Roberts, R. J. -----	590, 659, 662, 663, 684, 687, 688, 691, 702-705, 712, 722
Robinove, C. J. -----	74-78, 143, 144
Robinson, G. R. -----	499
Robinson, Keith -----	339
Robinson, Rhoda -----	781
Rodrigues, F. M. C. -----	175, 176
Roedder, Edwin -----	576
Rogers, A. M. -----	330, 331
Rohde, W. C. -----	52
Rojahn, Christopher -----	130, 581, 582, 786, 787
Roller, John -----	597
Rooney, L. F. -----	706-708
Rose, H. J., Jr. -----	308
Rose, W. I., Jr. -----	303
Rosenblum, Sam -----	161, 390
Rosenfeld, J. H. -----	297
Ross, C. P. -----	261
Ross, C. S. -----	414
Ross, D. A. -----	709-711, 715, 725, 738
Ross, R. J., Jr. -----	776
Rossman, D. L. -----	538, 627
Rowan, L. C. -----	18-21
Rowley, P. D. -----	108-110
Rubinowski, Zbigniew -----	577
Ruggles, F. H. -----	200, 519, 539
Russell, M. J. -----	352
Ryan, B. D. -----	740
Rye, R. O. -----	455, 578, 689, 705, 712, 741, 742

S

Sabhain, Sanga -----	79
Saemundsson, Kristjan -----	324
Salas, Guillermo A. -----	461
Salati, E. -----	172
Salazar, Humberto -----	567

Sanchez, A. -----	454
Sanchez, Eddy -----	307
Sander, W. -----	127
Sass, J. H. -----	137, 142, 145, 391
Sato, Motoaki -----	288
Sauer, S. P. -----	374
Sawkins, F. J. -----	741, 742
Sbokos, J. G. -----	581
Scherkenbach, D. A. -----	563
Schilling, J. G. -----	312
Schlanger, S. O. -----	504
Schlee, John -----	711
Schmidt, D. L. -----	104, 105, 108, 110, 111, 635-637, 660, 661, 672-675, 690, 701, 713, 714
Schmidt, R. G. -----	540-542
Schmoll, H. R. -----	469, 470
Schoonmaker, J. W., Jr. -----	116
Schruben, P. G. -----	99
Schwartz, D. P. -----	304
Searle, R. S. -----	715
Seeber, L. -----	543
Seitz, J. F. -----	392, 393
Serrano, Mario -----	22
Sethi, U. B. -----	532
Shaffer, G. L. -----	227
Shah, S. M. I. -----	517, 518
Shampine, W. J. -----	716
Shanks, W. C. -----	717
Sharp, R. V. -----	302, 350
Sheehan, C. A. -----	342
Sheldon, R. P. -----	510
Shepard, F. P. -----	445
Shinn, E. A. -----	150, 151
Showen, C. R. -----	80, 760
Siegel, M. D. -----	499
Silberman, M. L. -----	262, 564, 568, 571
Simkin, T. -----	266
Simmons, G. C. -----	718
Simon, F. O. -----	287
Simpson, R. W. -----	98
Sinding-Larsen, Richard -----	4
Skiba, W. -----	646
Smith, C. L. -----	628
Smith, C. W. -----	719-721
Smith, G. I. -----	94
Smith, H. W. -----	81, 228
Smith, J. P. -----	404

Snavely, P. D., Jr. -----	194, 745-749,	751
Snell, L. J. -----		180
Soderblom, L. A. -----		371
Sohn, I. G. -----		333
Soleimani, George -----		781
Spence, William -----		572
Spencer, F. D. -----		574
Spicer, R. A. -----		779
Squarci, R. -----		354
Sriplung, Nissai -----		758
Srisaengthong, Darasri -----		758
Srivastava, S. P. -----		390
Stacey, J. S. -----	602, 722,	740
Stancioff, A. -----		16
Stanin, S. A. -----	531, 544-546	
Stauffer, K. W. -----	547-551	
Steele, T. D. -----		533
Steen-McIntyre, Virginia -----		446
Stefani, G. -----		354
Steineke, Max -----		723
Stoertz, G. E. -----		38
Stoeser, D. B. -----	620, 691, 699, 713, 714,	724
Stoffers, Peter -----		725
Strome, W. M. -----		82
Strong, A. E. -----		33
Stuckless, J. S. -----		112
Sumadirdja, Harli -----		343
Summers, D. M. -----		523
Sun, S. S. -----		312
Suptandar, Tatan -----		339
Swarzenski, W. V. -----	377,	378
Szabo, B. J. -----	146, 187, 447, 743,	744

T

Tahirkheli, R. A. L. -----		523
Takagi, A. -----		364
Tammemagi, H. Y. -----		142
Taranik, J. V. -----		342
Tatsumoto, Mitsunobu -----	83,	312
Tatsuoka, F. -----		54
Taylor, F. A. -----		511
Taylor, G. C., Jr. -----	84,	309
Teichert, Curt -----	526, 527,	552
Tellez I., N. -----		253
Teng, Ta-Lian -----		238

Terman, M. J. -----	85, 86, 134-136, 236, 239, 240, 512
Thaden, R. E. -----	343
Tharp, Marie -----	503
Theobald, P. K. ----	442, 443, 448, 449, 456, 726
Theodore, T. G. -----	450, 451
Thiede, John -----	496
Thomas, H. E. -----	382
Thórarinsson, Sigurdur -----	324-325
Thorman, C. H. -----	181, 182, 394, 395
Tibbitts, G. C., Jr. -----	794, 805, 806, 808, 809, 812
Tiffin, D. L. -----	194
Till, A. B. -----	786
Tinsley, E. J. -----	3
Todd, Ruth -----	122
Tokida, K. -----	54
Tonekura, Nobuyuki -----	368
Toulmin, Priestley, III -----	353
Tripp, R. B. -----	92
Truesdell, A. H. -----	356, 359, 452-455
Trumbell, J. V. A. -----	490
Turner, R. L. -----	416-418, 448, 456
Turner, R. M. -----	95
Tyler, T. F. -----	28, 29
Tysdal, R. G. -----	396-399
Tykowski, Jane -----	2

## U

Uliarte, E. -----	124
Umino, N. -----	364
United Nations -----	310
Untung, M. -----	344
Upton, V. S. -----	3
Urquidi, Fernando -----	11, 160
Geological Survey -----	475
U.S. Geological Survey -----	273, 313, 314, 457 476, 573, 814

## V

Valastro, S., Jr. -----	429, 430
Valenza, Mariano -----	288
Valle-Gomez, Rodolfo -----	458
Van Alstine, R. E. -----	99
VanTrump, George, Jr. -----	405-407

Varchol, D. -----	147
Varet, J. -----	277
Vargas, E. -----	750
Varnes, D. J. -----	513
Vasques, Hernan -----	241
Vaughn, T. W. -----	261
Vecchioli, John -----	580
Velikanov, A. L. -----	32
Vennum, W. R. -----	113
Vesga, Jairo -----	245
Vibulsresth, Suvit -----	79
Vila, G. T. -----	213
Vincent, R. K. -----	16
Vine, J. D. -----	154, 155
Von Herzen, R. P. -----	88
Von Huene, R. E. -----	298

W

Wachs, T. C. -----	141
Wade, F. A. -----	114, 115
Wahid, M. A. -----	545, 546
Wallace, R. E. -----	238, 787
Wallace, R. M. -----	400, 780
Wanyeki, Simon -----	378
Ward, D. E. -----	252-254
Ward, P. E. -----	727
Ward, W. C. -----	447
Wardlaw, B. R. -----	459, 460
Watson, J. V. -----	71-73
Watson, Kenneth -----	489
Webster, W. J., Jr. -----	119
Wedepohl, K. H. -----	281
Weeks, W. F. -----	193
Weide, A. E. -----	408, 447
Weiss, P. L. -----	461
Wells, J. W. -----	761
Wentworth, C. M. -----	370
Wesson, R. L. -----	788
Wetmiller, R. J. -----	53
White, M. G. -----	183-185, 553
White, R. A. -----	305-307
White, R. W. -----	385
Whitlow, J. W. -----	590
Whitmore, F. C., Jr. -----	87, 690
Wieczorek, G. F. -----	294
Wier, K. L. -----	728

Wikarno -----	339
Wilch, L. O. -----	729
Wilcox, W. G. -----	138
Wilheit, T. T. -----	118
Williams, D. L. -----	88, 499
Williams, P. L. -----	110, 111
Williams, R. S., Jr. -----	40, 41, 89, 90, 116, 315-328, 779
Williams, V. S., -----	465
Wilshire, H. G. -----	756
Wilson, I. F. -----	462
Wilson, R. C. -----	294-297
Wolfe, J. W. -----	91
Woo, C. C. -----	289, 463
Woodring, W. P. -----	261
Worl, R. G. -----	684, 704, 730-736
Worts, G. F., Jr. -----	272
Wright, N. A. -----	507
Wu, F. T. -----	235
Wynn, J. C. -----	737

#### Y

Yerkes, R. F. -----	284, 285
Yildiz, Mehmet -----	772
Yost, Edward -----	539
Youd, T. L. -----	131, 246, 583
Young, R. A. -----	738
Younse, G. A. -----	514

#### Z

Zaki, Ahmad -----	537, 538
Zamarbide, J. L. -----	130
Zartman, R. E. -----	577, 739
Zeitler, P. -----	523
Zietz, Isidore -----	789

## SUBJECT INDEX

	Ref. No.
Aggregates, Bangladesh-----	149
Saudi Arabia-----	706
Agriculture, general-----	64
Agriculture potential, Egypt-----	272
Alabandite, Saudi Arabia-----	591
Alluvial deposits, Nepal-----	465
Aluminum, Brazil-----	183
Amphibolite, Yugoslavia-----	814
Antimony, Pakistan-----	525, 553
Apatite, Mexico-----	436
Aqueous geochemistry, Italy-----	356, 359
Mexico-----	409
Pacific region-----	491
Archeological studies, El Salvador-----	274
Mexico-----	446
South Africa-----	743
United Kingdom-----	779
Areal geography, Nigeria-----	476
Saudi Arabia-----	602-608, 611, 723
Yemen-----	813
Areal geology, Antarctica-----	104,
Belize-----	151
Brazil-----	181, 182
Colombia-----	244,
Costa Rica-----	256-258
Dominican Republic-----	261
Egypt-----	268, 269
France-----	277
Indonesia-----	334,
Jordan-----	371, 372
Korea-----	380
Liberia-----	383
-----	384, 386-388, 392, 393, 395-400
Mexico-----	459, 460
Morocco-----	466
Oman-----	479
Pacific region-----	505
Pakistan-----	515-518,
-----	521, 532, 535, 547, 548, 550, 552
Philippines-----	574
Saudi Arabia-----	586-589,
-----	609, 613, 631, 646-657, 664-670, 697, 699, 700, 718,
-----	720, 728
Turkey-----	765-767



	Ref. No.
Yemen-----	794-804
Arsenic, Pakistan-----	553
Asbestos, Saudi Arabia-----	708
Ash flows, Mexico-----	414
Atmospheric circulation, Arctic regions-----	117
Australites, India-----	332
Avalanches, Peru-----	554, 569, 570
Barite, Pakistan-----	524
Basalt, Mid-Atlantic Ridge-----	5, 30
Pacific region-----	502, 506
Saudi Arabia-----	643-645
Base-metal deposits, Ireland-----	352
Base metals, Mexico-----	442
Bathymetry, Pacific region-----	490, 501, 503
Bauxite, South America-----	215
Bentonite, Pakistan-----	523
United Kingdom-----	776
Brines, Bolivia-----	154, 155
Saudi Arabia-----	709
Chromite, Cuba-----	259
Pakistan-----	536, 538
Chromium, Guyana-----	308
South America-----	216
Circum-Pacific map project-----	493,
	494, 508, 509, 512
Climatology, forests-----	91
Coal, Colombia-----	251
Pakistan-----	518, 520-522
Philippines-----	574
South America-----	226
Coal resource evaluation, Colombia-----	248
Coastal geomorphology, Spain-----	750
Conglomerate, Saudi Arabia-----	672
Copper, Antarctica-----	110
Iran-----	348
Mexico-----	416
Pakistan-----	546, 553
Saudi Arabia-----	736
South Africa-----	740-742
South America-----	217
Copper slag, Israel-----	353
Copper-zinc skarn, Peru-----	563
Coral reefs, Australia-----	146
Belize-----	150
See also Reefs	
Corals, Tonga-----	761
Crater, Bolivia-----	161

	Ref. No.
Crystal chemistry, Chile-----	234
Current-meter studies, Mexico-----	445
Data collection, general-----	23
Data processing, general-----	629, 630
Deep-sea water temperatures, Pacific region-----	499
Desert geomorphology, Peru-----	560, 562
Diatomaceous sedimentation, Asia-----	133
Dikes, Saudi Arabia-----	592, 593
Directorate General of Mineral Resources publications, Saudi Arabia-----	694
Disaster warning, general-----	77, 78
Earthquake hazards, Argentina-----	123
India-----	330, 331
Earthquake prediction, China-----	238
Pakistan-----	543
Earthquakes, Argentina-----	124, 126, 130, 131
China-----	238
Colombia-----	246
Greece-----	282-285
Guatemala-----	290-297,
299-302, 305-307	
Iran-----	350
Japan-----	360,
361, 364, 366-368, 370	
Peru-----	556-559, 561, 572
Romania-----	581-583
South America-----	211
U.S.S.R.-----	788
See also Seismicity, Seismology	
Earth Science Agencies, worldwide directory-----	2
Eclógites, Italy-----	357
Economic geology, Brazil-----	179
Chile-----	233
Libya-----	402
Saudi Arabia-----	652,
654, 655, 679, 680, 683, 687-689, 719, 721,	
730-736	
South America-----	204, 224
Yemen-----	794, 808, 810
See also Mineral deposits, Mineral resources, Metallogenesis, Mineral exploration	
Electromagnetic survey, Saudi Arabia-----	737
Energy resources, Egypt-----	273
Korea-----	379
Peru-----	573
Engineering geology, Nicaragua-----	468-470
Nigeria-----	471

Peru-----	557, 558
U.S.S.R.-----	785
Environmental geochemistry, Antarctica-----	286
Greenland-----	286
Environmental management, Africa-----	95
Environmental studies, Columbia-----	242
Iceland-----	316, 317, 327, 328
ERTS imagery, general-----	12, 76, 89
environmental studies-----	77, 78
Afghanistan-----	93
Africa-----	95
Jordan-----	372
Iceland-----	316-318, 321, 324
Thailand-----	758
See also Landsat data and imagery, Remote sensing	
Evaporites, Afghanistan-----	94
Antarctica-----	113
Faulting, Saudi Arabia-----	696
Taiwan-----	816
U.S.S.R.-----	787
Field training, general-----	1
Fission-track dating, Mexico-----	436
United Kingdom-----	775, 776
Fluid inclusions, Poland-----	576
Portugal-----	578
Fluorite, Africa-----	99
Pakistan-----	536
Foraminifera, Arctic regions-----	122
Chile-----	229
Gabbro, Saudi Arabia-----	618
Galena, U.S.S.R.-----	783
Gamma-radiation surveys, Saudi Arabia-----	632, 634
Geochemical prospecting, Mexico-----	411,
416-418, 422-424, 428, 433-435, 456	
Pakistan-----	545, 546
See also Mineral exploration	
Geochemistry, Canada-----	188
Circum-Pacific-----	57
Colombia-----	244
Greenland-----	288
Ireland-----	252, 351
Mexico-----	448, 452-454
Mid-Atlantic Ridge-----	5, 30
Peru-----	564
Saudi Arabia-----	621,
623, 624, 651, 697, 703, 726	
South Africa-----	742

	Ref. no.
Swailand-----	755
Tanzania-----	756
Turkey-----	768, 769
Yemen-----	794, 810
See also Isotope geochemistry, Aqueous geochemistry	
Geochronology, Canada-----	191
United Kingdom-----	778
Yugoslavia-----	814
See also Isotope geochronology	
Geodes, Mexico-----	463
Geological correlation, general-----	9, 10
Geological education, general-----	81
CENTO countries-----	195, 196
South America-----	228
Geological literature, Egypt-----	271
Geologic mapping, Iceland-----	323
Saudi Arabia-----	598-600
Geomorphic processes, Iceland-----	319
Geomorphology, Egypt-----	270
Geophysics, satellite applications-----	12
Antarctica-----	101
France-----	277
Saudi Arabia-----	618,
	651, 685, 715, 719, 726
See also Magnetics, Paleomagnetism, Gravity studies, Radioactivity	
Geophysical prospecting, Mexico-----	419, 424-426
Saudi Arabia-----	737
Geothermal studies, France-----	277
Iceland-----	311
Italy-----	354, 356, 359
Mexico-----	413,
	431, 432, 437, 438, 452-455, 458
Mid-Atlantic Ridge-----	88
See also Heat flow	
Glacial geology, Argentina-----	127
Canada-----	187, 190
Glaciers, satellite images-----	40, 41, 90
Greenland-----	289
Iceland-----	313
	314, 318, 319, 322, 324-326
Gneiss, Saudi Arabia-----	638
Swaziland-----	755
Gold, Saudi Arabia-----	590, 680, 689, 731-735
Gossans, Saudi Arabia-----	591
Graphite, Mexico-----	461

	Ref. no.
Gravity studies, Mexico-----	457
Saudi Arabia-----	640-642
Ground water, Egypt-----	267, 272
Haiti-----	309, 310
Kampuchea-----	375
Kenya-----	378
Mexico-----	351, 409, 410, 413
Pacific region-----	491
Quatar-----	580
Saudi Arabia-----	716, 727
Sri Lanka-----	753
Yemen-----	812
See also Hydrology, Water resources	
Heat flow, Australia-----	142, 145
Liberia-----	391
Saudi Arabia-----	639
Heavy minerals, Indonesia-----	344
Mexico-----	405, 406
Pakistan-----	549, 551
Hydrocarbon provinces, World-----	26-29
Hydrogeology, Vietnam-----	793
Hydrology, general-----	32
Brazil-----	173-178, 180
CENTO countries-----	200
Kenya-----	377
Mexico-----	408-410
Nigeria-----	474
Pacific region-----	495
Pakistan-----	519, 528, 533, 539
Turkey-----	762
Yemen-----	805, 806, 811, 812
Ice, dynamics, Arctic regions-----	117
Canada-----	193
Ice, morphology, Arctic regions-----	118
Canada-----	193
Ice, thickness, Arctic regions-----	119
Ice, Arctic regions-----	121
Ice-rafted pebbles, Pacific region-----	490
Igneous petrology, Antarctica-----	102, 103, 106
Brazil-----	167
Canada-----	188, 191
Cyprus-----	260
Greenland-----	288
Saudi Arabia-----	671, 691, 724, 725
Turkey-----	764

Impact crater, Australia-----	139, 140
International activities, general-----	46
International cooperation, general-----	71-73
bibliography of-----	3
resource assessment-----	68
USGS-----	3, 70
Intrusive rocks, Italy-----	355
Iron, Mexico-----	434
South America-----	220, 222
Uruguay-----	780
Yemen-----	808, 810
Ironstone, Pakistan-----	529
Island arcs, general-----	83
Isotope geochemistry, island arcs-----	83
Canada-----	192
Gabon-----	279
Guatemala-----	303
Iceland-----	312
Indonesia-----	340
Italy-----	357, 359
Japan-----	363
Mexico-----	455
Oman-----	487
Peru-----	564
Poland-----	577
Portugal-----	578
Saudi Arabia-----	621,
623, 624, 705, 712, 716, 717,	722
South Africa-----	740
U.S.S.R.-----	783
Isotope geochronology, general-----	340
Antarctica-----	108, 112
Australia-----	146
Bolivia-----	156
Cook Islands-----	255
Ecuador-----	262
Liberia-----	385, 389
Mexico-----	412
Norway-----	478
Oman-----	486
Peru-----	571
Saudi Arabia-----	584,
620, 635-638,	739
South Africa-----	743, 744
Turkey-----	766
Isotope hydrology, Brazil-----	172

	Ref. no.
Karst, Ireland-----	351
Mexico-----	351
Turkey-----	762
Lake sediments, United Kingdom-----	777
Landsat data and imagery, general-----	13, 58
environmental studies-----	33, 74
in mining-----	22
plate-tectonic studies-----	50
Australia-----	138, 143, 144
Bahrain-----	148
Brazil-----	179
Canada-----	189
CENTO countries-----	199, 200
Iceland-----	313,
	314, 320, 323, 326
Indian Ocean-----	329
Indonesia-----	342
Iran-----	348
Jordan-----	371
Kuwait-----	381
Nigeria-----	476
Oman-----	488
Pacific region-----	492
Pakistan-----	519,
	539, 541, 542
Qatar-----	579
South America-----	202-205, 207-210
Thailand-----	759
United Arab Emirates-----	773
United Kingdom-----	774
Yemen-----	794-803, 806
Landslides, general-----	34
Guatemala-----	294, 295
Japan-----	366
Pacific region-----	511
Land use, Ireland-----	351
Mexico-----	
Nigeria-----	473
Laterite, Pakistan-----	544
Saudi Arabia-----	699
Layered intrusions, Antarctica-----	102, 103, 106
Greenland-----	288
Saudi Arabia-----	671, 691
Lead, Brazil-----	185
Federal Republic of Germany-----	281
Mexico-----	405, 412

Pakistan-----	553
Lead-zinc deposits, South America-----	218
Limestone, Pacific region-----	495, 496
Lineament patterns, general-----	43
Liquefaction, Guatemala-----	296, 297
Japan-----	367
Lithium, Bolivia-----	154, 155
South America-----	213
Maars, Iran-----	347
Mackinawite, Saudi Arabia-----	591
Magnesite, Pakistan-----	536
Magnetics, global-----	65
Central African Empire-----	201
Saudi Arabia-----	592-594,
654, 655, 666, 676-678,	700
Spain-----	752
Magnetite sands, Indonesia-----	344
Manganese, Australia-----	141
South America-----	215
Uruguay-----	780
Manganese nodules, Pacific region-----	507
Mapping, Australia-----	144
Brazil-----	179
Iceland-----	323
Yemen-----	805, 807
Maps, bathymetric, Pacific region-----	503
geochemical, Mexico-----	405-407,
416-418, 422, 423, 434, 435	
geographic, Nigeria-----	476
Pacific region-----	493, 494
Saudi Arabia-----	602-608, 611 723
Yemen-----	813
geologic, Antarctica-----	04, 105, 111
Colombia-----	241,
245, 250, 252-254	
Costa Rica-----	256, 258
Egypt-----	268, 269
Indonesia-----	334, 343
Liberia-----	383,
386-388, 392, 393, 395-397,	400
Oman-----	479
Saudi Arabia-----	586-588,
609, 613, 631, 646, 649-657, 664-667, 700,	720
South America-----	214



Yemen-----	795-804
geophysical, Mexico-----	457
hydrocarbon provinces, World-----	26-28
Landsat image, Nigeria-----	476
land use, Nigeria-----	473
lineaments, Mexico-----	440
magnetic, Saudi Arabia-----	676
mineral deposits, Liberia-----	384
South America-----	215-220
palinspastic, Saudi Arabia-----	658
platinum occurrences, U.S.S.R.-----	786
structure-contour, Libya-----	404
tectonic, Indonesia-----	336
Pacific region-----	512
volcanic hazards, Ecuador-----	264
Marine biology, Federal Republic of Germany-----	280
Marine processes, Iceland-----	320
Massive sulfides, Oman-----	480-482
Saudi Arabia-----	663, 698, 702
Medical geology, Turkey-----	770
Mercury, Turkey-----	772
Metallogenesis, South America-----	212
Metallogenic provinces, Pacific region-----	497, 498
Metallogeny, general-----	49
Metamorphic rocks, Brazil-----	168, 170
Micropaleontology, Chile-----	229
Venezuela-----	790, 791
See also Paleontology	
Mineral deposits, statistical analysis-----	4
Saudi Arabia-----	662,
663, 679, 680, 683, 687-689, 704, 705, 712, 721,	730-736
See also individually indexed minerals	
Mineral exploration, general-----	39
Remote sensing-----	8, 14-16, 18-21
tropical regions-----	39
Asia-----	132
Bolivia-----	158
CENTO countries-----	199
Iran-----	348, 349
Mexico-----	442, 443, 456
Pakistan-----	542, 551
Saudi Arabia-----	633,
683, 684, 701, 719, 731	

Mineralogy, Antarctica-----	106
Argentina-----	125
Canada-----	192
Chile-----	234
Guyana-----	308
Mexico-----	412, 463
Pakistan-----	529, 531
Saudi Arabia-----	591, 691, 692
Mineral production statistics, South America-----	227
Mineral resources, data compilation-----	31
development-----	24
Jordan-----	373, 374
Libya-----	402
Pakistan-----	515
Saudi Arabia-----	585,
591, 625, 627, 702, 717, 722, 724, 730-736	
South America-----	203, 206
Mining geology, general-----	1
CENTO countries-----	195, 196
Mining geophysics, U.S.S.R.-----	789
Molybdenum, Mexico-----	816
South America-----	216
Monazite, Taiwan-----	817
Nickel, Pakistan-----	546
South America-----	215
Saudi Arabia-----	633, 701
Nickel laterites, Indonesia-----	342
Niobium, Brazil-----	184
Saudi Arabia-----	693
Nitrate deposits, general-----	35-37
Chile-----	230-232
Nonmetallic mineral resources, Libya-----	402
Normative analysis program-----	601
Ophiolite, Oman-----	480-482, 484-487
Saudi Arabia-----	615, 619
Yugoslavia-----	814
Ore mineralization, Pakistan-----	535
Oxidation of sulfides, Antarctica-----	113
Oxidation of titanomagnetite, Pacific region-----	502
Paleomagnetism, Antarctica-----	107
Kenya-----	376
Liberia-----	385
Mexico-----	429, 430
Pacific region-----	502, 506
Paleontology, Bolivia-----	159
Canada-----	186

Colombia-----	249
India-----	333
Mexico-----	459, 460
Norway-----	477
Pakistan-----	520
Saudi Arabia-----	614, 690
Spain-----	745, 746
Tonga-----	761
Yemen-----	794
Palladium, Greenland-----	287
Pakistan-----	537
Turkey-----	771
Peridotite, Yugoslavia-----	815
Petrography, Yemen-----	810
Petroleum, data systems-----	56
Mexico-----	420
Nigeria-----	475
South America-----	221
United Kingdom-----	774
Venezuela-----	792
Petroleum engineering, U.S.S.R.-----	782
Petroleum geology, China-----	236, 239, 240
Nigeria-----	472
U.S.S.R.-----	782
Phosphate deposits, Africa-----	96
Brazil-----	162
Colombia-----	243, 249
Liberia-----	390
Middle East-----	96
Pacific region-----	514
Pakistan-----	534
Phosphogenic provinces, Pacific region-----	510
Phosphorite deposits, Brazil-----	163
Physiography, Arctic regions-----	120
Plagiogranite, oceanic-----	25
Plate tectonics, general-----	85
island arcs-----	83
Landsat applications-----	13
Brazil-----	165, 167
East Asia-----	134-136
Far East-----	86
New Zealand-----	467
Pacific region-----	506
Platinum, Greenland-----	287
Pakistan-----	537
Turkey-----	771

	Ref. no.
U.S.S.R.-----	786
Playas, Iran-----	346
Plutonic rocks, Peru-----	567
Turkey-----	769
Porphyry copper deposits, Mexico-----	411,
415, 424, 425, 428,	439
Pakistan-----	541
Porphyry intrusion, Peru-----	563
Porphyry-type metallization, Mexico-----	450
Potash, Afghanistan-----	94
Thailand-----	757
Potassic alteration, Mexico-----	451
Peru-----	563
Potassium content of rocks, Australia-----	137
Precious metals, South America-----	219
Radioactive minerals, Pakistan-----	530, 540
Radioactivity, Australia-----	145
Saudi Arabia-----	632, 634, 692
Rare-earth elements, Saudi Arabia-----	693
Reclamation projects, Pakistan-----	528, 533
Reefs, Indian Ocean-----	329
Spain-----	748
Regional geography, Pacific region-----	93, 494
Yemen-----	813
Regional geology, China-----	235
Pacific region-----	504
Peru-----	565
Saudi Arabia-----	610,
612, 616, 673, 681, 710, 711,	738
U.S.S.R.-----	781
Remote sensing, general-----	42, 75, 82
agriculture-----	63, 237
environmental studies-----	17
forestry-----	52
glaciers-----	0, 41, 90
international cooperation-----	66-67, 69
international training-----	51, 52, 59, 60
lineament patterns-----	43
metals-----	8
program organization-----	79
Africa-----	97
Arctic regions-----	119
Asia-----	132
Australia-----	141
Bolivia-----	152, 153
CENTO countries-----	197, 198

China-----	237
Ecuador-----	263, 266
Iceland-----	319, 321, 322
Mexico-----	424
Nigeria-----	473
Oman-----	488, 489
Pacific region-----	500
Saudi Arabia-----	598-600
Turkey-----	762
United Kingdom-----	779
Resources, general-----	87
Resource assessment, general-----	11, 23
international cooperation-----	68
Rhodium, Greenland-----	287
Pakistan-----	537
Turkey-----	771
Ring structures, Saudi Arabia-----	622, 625, 626, 726
Rock analysis storage system, Saudi Arabia-----	729
Sabkhahs, Saudi Arabia-----	628
Salars, general-----	38
Salar deposits, South America-----	208-210, 213
Sand dunes, general-----	55
Sea-floor studies, Japan trench-----	369
Pacific region-----	490,
Saudi Arabia-----	501, 503, 505, 507
Saudi Arabia-----	710, 711
Sea-level changes, Mexico-----	447
Seamounts, Pacific region-----	490, 501
Seasat, general-----	58
Sedimentary basins, China-----	239
Saudi Arabia-----	674, 675
Sedimentary petrology, Brazil-----	171
Italy-----	358
Korea-----	380
Philippines-----	575
Saudi Arabia-----	672,
Saudi Arabia-----	674, 675, 725, 738
Sedimentology, general-----	47, 48
Argentina-----	128, 129
Belize-----	151
Brazil-----	173-178
New Zealand-----	466
South America-----	225
United Kingdom-----	777
Seismicity, Saudi Arabia-----	695
Turkey-----	763

Seismic profiles, Mexico-----	444
Seismic reflection, Canada-----	194
Seismic refraction, Saudi Arabia-----	597, 685, 686
Seismology, general-----	53, 54, 61
Argentina-----	123, 126, 130
Bolivia-----	157
China-----	238
El Salvador-----	275
Greece-----	282, 285, 581
Mexico-----	427
Nicaragua-----	468
Peru-----	572
Romania-----	581-583
South America-----	223
U.S.S.R.-----	784, 788
Serpentinite, Saudi Arabia-----	708
Siliceous deposits, general-----	44
Silver, Mexico-----	412, 435
Peru-----	566
Silver-gold ores, Mexico-----	462
Slope-stability, Pacific region-----	513
Soils, Antarctica-----	100
Egypt-----	272
Soluble salts, Pakistan-----	545
Space technology, Zaire-----	815
Sphalerite, Japan-----	362
Stratigraphic nomenclature, Mexico-----	421
Pakistan-----	517, 526, 527
Stratigraphy, Libya-----	401
Pakistan-----	517,
518, 520, 526, 527, 531, 532	
Peru-----	565
Spain-----	746, 747
Structure, Africa-----	98
Antarctica-----	107
Bahamas-----	147
Bolivia-----	161
Brazil-----	164,
165, 169, 179	
Colombia-----	247
Cyprus-----	260
Guatemala-----	290,
298, 299, 302, 304	
Liberia-----	394
Libya-----	403, 404
Mexico-----	431, 440

	Ref. no.
Peru-----	556
Saudi Arabia-----	658,
696, 711, 713-715	
South America-----	206, 211
Spain-----	749
Taiwan-----	816
Structural clay products, Saudi Arabia-----	707
Submarine Valleys, Mexico-----	444, 445
Sulfur, Pakistan-----	536
Surveying, Antarctica-----	116
Tantalum, Brazil-----	184
Tectonics, Argentina-----	123
Bahamas-----	147
Brazil-----	179
Guatemala-----	298, 301, 302, 304
Indonesia-----	335-338
Libya-----	401
Mexico-----	443
Nepal-----	465
Pacific region-----	512
Peru-----	555, 565, 568
Saudi Arabia-----	595,
596, 617, 619, 636, 637, 640, 641, 658-661, 673,	
713-715, 724, 738	
South Africa-----	741
Spain-----	749, 751
Thermal gradient, Saudi Arabia-----	639
Thorium, Mexico-----	433
Thorium content of rocks, Australia-----	137
Tin, Afghanistan-----	92
Bolivia-----	160
Indonesia-----	338
Iran-----	92
Mexico-----	418
South America-----	216
Turkey-----	92
Tin-tungsten deposits, Portugal-----	578
Titaniferous magnetite, Saudi Arabia-----	691
Pacific region-----	502
Trace-element geochemistry, India-----	332
Yemen-----	794, 808, 809
Trondhjemite, Swaziland-----	754
Tungsten, Mexico-----	406
Saudi Arabia-----	726
South America-----	216
Uranium content of rocks, Australia-----	137

Uranium, world-----	6, 7
Brazil-----	166
Ultramafic inclusions, Saudi Arabia-----	643-645
Tanzania-----	756
Ultramafic rocks, Pakistan-----	537, 538
Turkey-----	771
USGS Activities, Saudi Arabia-----	682
Vanadium, South America-----	216
Volcanic hazards, Ecuador-----	264, 265
Volcanic rocks, Peru-----	568
Saudi Arabia-----	617
Turkey-----	764
Volcanism and volcanoes, Ecuador-----	263-266
El Salvador-----	274
French West Indies-----	278
Guatemala-----	303
Iceland-----	315, 327, 328
Japan-----	365
Mexico-----	414
Peru-----	564, 566
Saudi Arabia-----	738
Water resources, data handling, Thailand-----	760
data system-----	80
international cooperation-----	45, 84
Kuwait-----	382
Water supply, Pacific region-----	495
Zeolites, Turkey-----	770
Zinc, Brazil-----	181, 182, 185
Mexico-----	407, 412
Pakistan-----	553
Zinc-lead, Iran-----	345
Poland-----	576, 577