U.S. Department of the Interior
U.S. Geological Survey

New Publications of the U.S. Geological Survey

IMPORTANT ANNOUNCEMENT FOR SUBSCRIBERS

Effective with the July-September 2003 issue, the U.S. Geological Survey will no longer print and distribute the quarterly version of "New Publications of the U.S. Geological Survey." The July-September 2003 and October-December 2003 issues will be released online through the USGS at http://pubs.usgs.gov/publications/

Comments concerning this change may be sent to the U.S. Geological Survey, 903 National Center, Reston, VA 20192.

Lists 1134–1136—Publications issued January–March 2003

USGS
science for a changing world

AVAILABILITY OF U.S. GEOLOGICAL SURVEY CATALOGS

These permanent catalogs, as well as some others, are available under the conditions indicated below from USGS Information Services, Box 25286, Federal Center, Denver, CO 80225. A $5 handling charge is applicable on each order. The catalogs are also available over the counter at any of the U.S. Geological Survey offices that sell books.

Permanent catalogs "Publications of the Geological Survey, 1879–1961" and "Publications of the Geological Survey, 1962–1970" may be purchased in paperback book form for $6.

Permanent catalog "Publications of the U.S. Geological Survey, 1971 through 1981" may be purchased in paperback book form (two volumes, publications listing and index) for $15.

Supplements for 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, and 2000 may be purchased in paperback book form and are priced as follows: 1982, $3; 1983, $3; 1984, $3.25; 1985, $3.75; 1986, $4.25; 1987, $4; 1988, $3.75; 1989, $4; 1990, $4.50; 1991, $4.25; 1992, $5; 1993, $7.50; 1994, $7.50; 1995, $7.50; 1996, $7.50; 1997, $7.50; 1998, $7.50; 1999, $7.50; 2000, $7.50. The 2001 Annual Supplement is free and available online only at http://pubs.usgs.gov/publications/2001.

"New Publications of the U.S. Geological Survey" is also available electronically through the USGS at http://pubs.usgs.gov/publications/.

The U.S. Geological Survey Publications Data Base includes comprehensive bibliographic information on USGS reports and maps published from 1880 to the present and references for non-USGS publications with USGS authors published from 1983 to date—a total of approximately 110,000 publications. Free public access to the data base is provided as a public service by the U.S. Geological Survey at http://usgs-georef.cos.com and through the USGS home page at http://www.usgs.gov.

U.S. Department of the Interior
U.S. Geological Survey

New Publications of the U.S. Geological Survey

Lists 1134–1136 —Publications issued January–March 2003

NOTICE

The U.S. Geological Survey (USGS) will no longer print copies of the monthly, quarterly, and annual *Mineral Industry Surveys* for mailing list distribution. The report will continue to be available on the USGS Web site at http://minerals.usgs.gov/minerals.

If you would like to receive e-mail notification for future issues of the *Mineral Industry Surveys*, instructions are provided at http://minerals.usgs.gov/minerals/ pubs/listservices.html.

NOTICE

Effective April 30, 2003, the Global Land Information System (GLIS) Web site will no longer be available. EarthExplorer, which now supports the Macintosh platform, replaces GLIS as the USGS tool for querying and ordering satellite images, aerial photographs, and cartographic products.

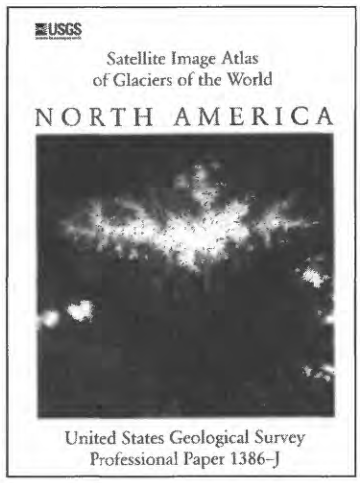
For more information on how to order these products, check the EarthExplorer Web site at http://earthexplorer.usgs.gov or contact your nearest Earth Science Information Center (ESIC). To locate the nearest ESIC, call 1-800-ASK-USGS or visit http://www.usgs.gov.

CONTENTS

* No new publications in this series for this quarter.

NEW PUBLICATIONS OF SPECIAL INTEREST

Professional Paper 1386-J



Satellite image atlas of glaciers of the world; North America, edited by R. S. Williams, Jr., and J. G. Ferrigno, U.S. Geological Survey. 2002. p. J1-J405. $76. Available on the web at http://pubs.usgs.gov/prof/p1386j/

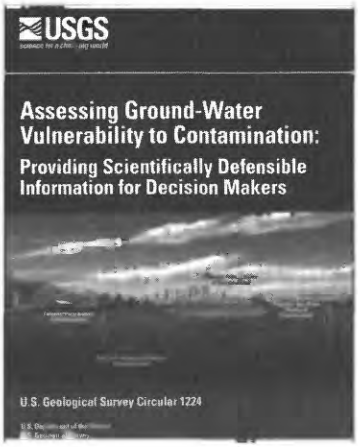
Landsat images, together with maps and aerial photographs, have been used to produce glacier inventories, define glacier locations, and study glacier dynamics in North America, exclusive of Alaska. The chapter is divided into three parts: Glaciers of Canada, Glaciers of the conterminous United States, and Glaciers of Mexico. Glaciers in Canada are located in three principal geographic settings: on several Arctic islands, in the Rocky Mountains and Interior Ranges, and along the Pacific Coast. The area covered by glaciers is estimated to be 151,000 km^2 on the Arctic islands and 50,000 km^2 on the mainland. Glaciers in the conterminous United States are located in the states of Washington, Oregon, California, Montana, Wyoming, Colorado, Idaho, Utah, and Nevada. They have a total area of about 580 km^2. Glaciers in Mexico are located on two active stratovolcanoes and one dormant stratovolcano. The total glacier area in the middle 1960s was 11.44 km^2; all glaciers have been receding during the 20th century.

Fact Sheet 0131-02

Earthquake hazard in the heart of the homeland, by Joan Gomberg and Eugene Schweig. 2002. 4 p. Available on the web at http://pubs.usgs.gov/fs/fs-131-02/

The U.S. Geological Survey produces earthquake (seismic) hazard maps on a national scale and for select urban areas. Earthquake hazard maps depict the ground shaking that is expected to be exceeded at a selected probability (or chance) over a specific time period. One of the prominent features on the national seismic hazard maps is a zone of high hazard surrounding the New Madrid region in the central United States. The hazard in this region is as high as for places in California, despite a lower level of modern-day earthquake activity.

Circular 1224



Assessing ground-water vulnerability to contamination; providing scientifically defensible information for decision makers, by M. J. Focazio, T. E. Reilly, M. G. Rupert and D. R. Helsel. 2002. 33 p. Available on the web at http://water.usgs.gov/pubs/circ/2002/circ1224/

Throughout the United States, increasing demands for safe drinking water and requirements for maintaining healthy ecosystems prompt policymakers to ask complex social and scientific questions about how to assess and manage water resources. Scientifically defensible assessments of the vulnerability of water resources to contamination are crucial components of sound water-resource management decisions. This report provides an overview of the common approaches used to determine the vulnerability of ground-water resources to contamination and discusses the strengths and weaknesses of the various approaches as sources of scientifically defensible information for water-resource decisionmakers. Descriptions of scientifically defensible methods are supported by example studies that have been conducted by the USGS, often in cooperation with local, State, and regional water-resource agencies. This report may be useful as a primer for understanding the science required by water-resource decisionmakers for assessing ground-water vulnerability.

FORMAL REPORTS

PROFESSIONAL PAPERS

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

P 1386-J. Satellite image atlas of glaciers of the world; North America, edited by R. S. Williams, Jr., and J. G. Ferrigno, U.S. Geological Survey. 2002. p. J1-J405. $76. Available on the web at http://pubs.usgs.gov/prof/p1386j/

Landsat images, together with maps and aerial photographs, have been used to produce glacier inventories, define glacier locations, and study glacier dynamics in North America, exclusive of Alaska. The chapter is divided into three parts: Glaciers of Canada, Glaciers of the conterminous United States, and Glaciers of Mexico. Glaciers in Canada are located in three principal geographic settings: on several Arctic islands, in the Rocky Mountains and Interior Ranges, and along the Pacific Coast. The area covered by glaciers is estimated to be 151,000 km^2 on the Arctic islands and 50,000 km^2 on the mainland. Glaciers in the conterminous United States are located in the states of Washington, Oregon, California, Montana, Wyoming, Colorado, Idaho, Utah, and Nevada. They have a total area of about 580 km^2. Glaciers in Mexico are located on two active stratovolcanoes and one dormant stratovolcano. The total glacier area in the middle 1960s was 11.44 km^2; all glaciers have been receding during the 20th century.

Glaciers of Canada; introduction, by R. S. Williams, Jr. and J. G. Ferrigno, U.S. Geological Survey. p. J1-J26.

History of glacier investigations in Canada, by C. S. L. Ommanney, International Glaciological Society. p. J27-J82.

Mapping Canada's glaciers; with a section on mapping glaciers in the Interior Ranges and Rocky Mountains with Landsat data, by C. S. L. Ommanney, International Glaciological Society; R. D. Wheate, R. W. Sidjak, and G. T. Whyte, University of Northern British Columbia. p. J83-J110.

Glaciers of the High Arctic islands, by R. M. Koerner, Geological Survey of Canada. p. J111-J146.

Ellesmere Island ice shelves and ice islands, by M. O. Jeffries, University of Alaska. p. J147-J164.

Glaciers of Baffin Island; with sections on Barnes ice cap; geomorphology and thermodynamics; and late 20th century change at the Barnes ice cap margin, by J. T. Andrews, University of Colorado; Gerald Holdsworth, University of Calgary; and J. D. Jacobs, Memorial University of Newfoundland. p. J165-J198.

Glaciers of the Canadian Rockies, by C. S. L. Ommanney, International Glaciological Society. p. J199-J289.

Glaciers of the Coast Mountains, by G. K. C. Clarke, University of British Columbia; and Gerald Holdsworth, University of Calgary. p. J291-J300.

Glaciers of the St. Elias Mountains; with a section on quantitative measurements of Tweedsmuir Glacier and Lowell Glacier imagery, by G. K. C. Clarke, University of British Columbia; Gerald Holdsworth, University of Calgary; P. J. Howarth, University of Waterloo; and C. S. L. Ommanney, International Glaciological Society. p. J301-J328.

MONTANA. Glaciers of the Western United States; with a section on glacier retreat in Glacier National Park, Montana, by R. M. Krimmel, C. H. Key, D. B. Fagre, U.S. Geological Survey; and R. K. Menicke, U.S. National Park Service. p. J329-J381.

Glaciers of Mexico, by S. E. White, Ohio State University. p. J383-J405.

P 1411-B. Hydrologic properties and ground-water flow systems of the Paleozoic rocks in the upper Colorado River basin in Arizona, Colorado, New Mexico, Utah, and Wyoming, excluding the San Juan Basin, by A. L. Geldon. 2003. p. B1-B153. 13 plates in pocket. (Regional Aquifer-System Analysis; upper Colorado River basin, excluding San Juan Basin.) $53.

Paleozoic rocks are an important source of ground water that is needed to meet growing water demands in the upper Colorado River basin, an area of about 113,500 square miles. These rocks are classified into four aquifers and three confining units, and values of porosity, permeability, hydraulic conductivity, transmissivity, and yields to wells and springs are described for these hydrogeologic units. Recharge to the Paleozoic rocks is provided by infiltration of precipitation, leakage from streams, and groundwater inflow from adjacent areas. Ground water in the upper Colorado River basin primarily moves from structurally and topographically raised areas to structural basins and the incised canyons of the Colorado and Green rivers and their major tributaries. Water from the Paleozoic rocks discharges to streams, springs, and wells is consumed by evapotranspiration, discharges to overlying aquifers, or flows into adjacent areas.

P 1416-E. TEXAS. Hydrology of the Texas Gulf Coast aquifer systems, by P. D. Ryder and A. F. Ardis. 2002. p. E1-E77. 8 plates in pocket. (Regional Aquifer-System Analysis; Gulf Coastal Plain.) $30.

A complex, multilayered ground-water flow system exists in the Coastal Plain sediments of Texas. Two distinct aquifer systems are recognized within the sediments, which range in thickness from a few feet to more than 12,000 feet. Substantial withdrawal from aquifer systems began in the early 1900's and increased nearly continuously into the 1970's. Adverse hydrologic effects of this withdrawal included saltwater encroachment in coastal areas, land-surface subsidence in the Houston-Galveston area, and long-term dewatering in the Winter Garden area. Because of these effects, the Texas Department of Water Resources has projected that ground-water use will decline substantially in most of the study area by the year 2030.

P 1419. PUERTO RICO, VIRGIN ISLANDS. Geology and hydrogeology of the Caribbean Islands aquifer system of the Commonwealth of Puerto Rico and the U.S. Virgin Islands, by R. A. Renken, U.S. Geological Survey; W. C. Ward, University of New Orleans; I. P. Gill, University of Puerto Rico; Fernando Gómez-Gómez, Jesús Rodríguez-Martínez, U.S. Geological Survey; and others. 2002. 150 p., 5 plates in pocket. (Regional Aquifer-System Analysis; Caribbean Islands.) $32. Available on the web at http://water.usgs.gov/pubs/pp/2002/pp1419/

Carbonate clastic sedimentary rocks of late Tertiary and Quaternary age make up the principal sedimentary-rock aquifers of Puerto Rico and St. Croix, U.S. Virgin Islands. The distribution of hydraulic conductivity and transmissivity within the different aquifers directly reflects depositional patterns and the thickness of the freshwater lens and indirectly reflects the influence of relative sea-level change. Dolomitization, meteoric dissolution, and a zone of fresh and saltwater mixing all influence the distribution of porosity within the carbonate aquifers of the U.S. Caribbean.

Introduction, by R. A. Renken, U.S. Geological Survey. p. 2-14.

PUERTO RICO. Geology of the South Coast ground-water province of Puerto Rico, by R. A. Renken, U.S. Geological Survey. p. 14-45.

PUERTO RICO. Geology of the North Coast ground-water province of Puerto Rico, by W. C. Ward, University of New Orleans; R. A. Scharlach, Texas Commission on Environmental Quality; and J. R. Hartley, U.S. Corps of Engineers. p. 45-76.

VIRGIN ISLANDS. Geology of central St. Croix, U.S. Virgin Islands, by I. P. Gill, University of Puerto Rico; D. K. Hubbard, Oberlin College; P. P. McLaughlin, Delaware Geological Survey; and C. H. Moore, Louisiana State University. p. 76-97.

Hydrogeologic framework of the U.S. Caribbean Islands, by R. A. Renken, Fernando Gómez-Gómez, Jesús Rodríguez-Martínez, U.S. Geological Survey. p. 97-119.

PUERTO RICO. Controls on porosity and permeability in carbonate aquifers of northern Puerto Rico, by W. C. Ward, University of New Orleans. p. 119-121.

VIRGIN ISLANDS. U. S. Virgin Islands, by R. A. Renken, U.S. Geological Survey. p. 121-123.

Distribution and types of porosity within the Kingshill Aquifer, by I. P. Gill, University of Puerto Rico; D. K. Hubbard, Oberlin College; P. P. McLaughlin, Delaware Geological Survey; and C. H. Moore, Louisiana State University. p. 123-125.

Alluvial aquifers, by R. A. Renken, U.S. Geological Survey. p. 125-127.

P 1530-B. Analysis of thermal data and nonisothermal modeling of short-term test cycles, by R. T. Miller, Groundwater Investigations; G. N. Delin, U.S. Geological Survey. Prepared in cooperation with the University of Minnesota; Minnesota Geological Survey. 2002. p. B1-B66. (Cyclic injection, storage, and withdrawal of heated water in a sandstone aquifer at St. Paul, Minnesota.) $14.

In May 1980, the University of Minnesota began a project to evaluate the feasibility of storing heated water (150 degrees Celsius) in the Franconia-Ironton-Galesville Aquifer (183 to 245 meters below land surface) and later recovering it for space heating. Four short-term test cycles were completed. Each cycle consisted of approximately equal durations of injection and withdrawal ranging from 5.25 to 8.01 days. Temperature graphs for selected depths at individual observation wells indicate that the Ironton and Galesville sandstones received and stored more thermal energy than the upper part of the Franconia Formation. Clogging of the Ironton Sandstone was possibly due to precipitation of calcium carbonate or movement of fine-grain material or both. Vertical-profile plots indicate that the effects of buoyancy flow were small within the aquifer.

P 1530-C. Analysis of thermal data and nonisothermal modeling of long-term test cycles 1 and 2, by G. N. Delin, U.S. Geological Survey; M. C. Moyer, University of Minnesota; T. A. Winterstein, U.S. Geological Survey; and R. T. Miller, Groundwater Investigations. Prepared in cooperation with the University of Minnesota; Minnesota Geological Survey. 2002. p. C1-C80. (Cyclic injection, storage, and withdrawal of heated water in a sandstone aquifer at St. Paul, Minnesota.) $16.

In May 1980, the University of Minnesota began a project to evaluate the feasibility of storing heated water (150 degrees Celsius) in the Franconia-Ironton-Galesville Aquifer (183 to 245 meters below land surface) and later recovering it for space heating. Two long-term test cycles, consisting of approximately equal durations of injection, storage and withdrawal of about 59 days, were completed. Temperature graphs for selected depths at individual observation wells indicate that the Ironton and Galesville sandstones received, stored, and yielded more thermal energy than the upper part of the Franconian Formation. Vertical-profile plots and time-graphs during storage indicate that the effects of buoyancy flow were minimal within the aquifer.

P 1590. Habitat and environment of islands; primary and supplemental island sets, by N. C. Matalas and B. F. Grossling. 2002. 97 p., 1 plate, 1 CD-ROM, and 20 p. pamphlet in pocket. $29. Available on the web at
http://water.usgs.gov/pubs/pp/2002/pp1590/

This CD-ROM has been produced in accordance with the ISO 9660 Standard and is therefore capable of being read on any computing platform that has appropriate CD-ROM driver software installed.

Islands have long been an objective scientific interest. Island-based studies can provide a framework approximating natural, controlled scientific experiments—the isolation of various properties of islands to study the effects on those properties through the relations of other properties, endogenous or exogenous, to the islands. To develop an island framework useful for interdisciplinary island-based studies, a general synthesis along multidisciplinary lines of the world's saltwater islands was undertaken on the basis of a Primary Island Set of 1,000 specific islands characterized by 122 parameters.

P 1627. NEW HAMPSHIRE. Techniques for assessing sand and gravel resources in glaciofluvial deposits; an example using the surficial geologic map of the Loudon Quadrangle, Merrimack and Belknap counties, New Hampshire, by D. M. Sutphin, L. J. Drew, U.S. Geological Survey; B. K. Fowler, North American Reserve; and Richard Goldsmith, U.S. Geological Survey, with a surficial geologic map by Richard Goldsmith and D. M. Sutphin, U.S. Geological Survey. Prepared in cooperation with the New Hampshire Department of Environmental Services. 2002. 21 p., 1 plate in pocket. $5.

This report describes a method for estimating the sand and gravel resources in glaciofluvial systems by using surficial mapping techniques based on the morphosequence concept and geographic information systems (GIS). Both eskers and non-esker deposits were studied. Estimates indicate that about 158×106 m^3 of sand and gravel is present in the Soucook River valley part of the Loudon, NH, quadrangle. About 65×106 m^3 of these materials are

in deposits above the water table. About 34 percent of the resources above the water table are unlikely to be mined because they have been sterilized (adjacent to streams or roads, or encroached on by urbanization). Of the remaining resources, $0.48 \times 106\ m^3$ of gravel and $1.1 \times 106\ m^3$ of sand are in esker deposits, and $9.0 \times 106\ m^3$ of gravel and $37 \times 106\ m^3$ of sand are in stratified nonesker deposits.

P 1630. Catastrophic debris flows transformed from landslides in volcanic terrains; mobility, hazard assessment, and mitigation strategies, by K. M. Scott, U.S. Geological Survey; J. L. Macías, Universidad Nacional Autónoma de México; J. A. Naranjo, Servicio Nacional de Geología y Minería; Sergio Rodríguez, Universidad Nacional Autónoma de México; and J. P. McGeehin, U.S. Geological Survey. 2001. 59 p. $23.

Castastrophic debris flows may begin as landslides and travel 100-200 kilometers from their source areas in volcanic terrains. Many case histories have involved the loss of hundreds and even thousands of lives in the Western Hemisphere, including earthquake-triggered flow in Mexico in 1920 and, most recently, a precipitation-triggered flow in Nicaragua in 1998. The only fail-safe mitigation strategy is land-use planning in response to hazard assessment that minimizes the populations in flow pathways to numbers that can be evacated after event warnings.

P 1631. VIRGIN ISLANDS. Geology of St. John, U.S. Virgin Islands, by D. W. Rankin. Prepared in cooperation with the National Park Service. 2002. 36 p., 1 plate in pocket. $7.

The rocks of St. John, U.S. Virgin Islands, which is located near the eastern end of the Greater Antilles and near the northeastern corner of the Caribbean Plate, consist of Cretaceous basalt, andesite, keratophyre, their volcaniclastic and hypabyssal intrusive equivalents, and minor calcareous rocks and chert. These rocks were intruded by Tertiary mafic dikes and tonalitic plutons. The stratigraphic and structural records indicate that the oldest rocks formed in an extensional oceanic environment characterized by abundant keratophyre and sheeted dikes. Subduction-related arc magmatism of the east-west-trending Greater Antilles volcanic arc beginning near the transition between the Early and Late Cretaceous boundary was followed by deformation caused by the collision of the Greater Antilles Arc and the Bahama Platform of the North American Plate and subsequently by the intrusion of the late Eocene plutons. Subsequent structural events can be related to the initiation of spreading at the Cayman Trough spreading center and sinistral strike-slip movement of the Caribbean Plate relative to the North American Plate.

P 1655. Irrigation-induced contamination of water, sediment, and biota in the Western United States; synthesis of data from the National Irrigation Water Quality Program, by R. L. Seiler, U.S. Geological Survey; J. P. Skorupa, U.S. Fish and Wildlife Service; D. L. Naftz, and B. T. Nolan, U.S. Geological Survey. 2003. 123 p. $21.

In the early 1980's, incidents of mortality, congenital deformities, and reproductive failures in waterfowl were discovered in Kesterson National Wildlife Refuge, western San Joaquin Valley, California. The cause of these adverse biological effects was determined to be selenium carried by irrigation drainwater into areas used by wildlife. To study this specific problem and to address general concerns about the quality of irrigation drainage and its potential harmful effects on humans, fish, and wildlife, the U.S. Department of the Interior implemented the National Irrigation Water Quality Program in October 1985. This report describes the results of a synthesis of data collected at 26 areas in the Western United States during 1986-92 by the National Irrigation Water-Quality Program. Concentrations of contaminants in water, sediment, and biota are compared with criteria, and the most important contaminants associated with irrigation drainage are identified. Information on hydrology, climate, geology, geochemistry, and biology are integrated and evaluated as an interdependent system. Some previously published results are summarized, and the concepts developed in greater detail.

P 1656-A. FLORIDA. Hydrology, vegetation, and soils of riverine and tidal floodplain forests of the lower Suwannee River, Florida, and potential impacts of flow reductions, by H. M. Light, M. R. Darst, L. J. Lewis, U.S. Geological Survey; and D. A. Howell, U.S. Department of Agriculture. Prepared in cooperation with the Suwannee River Water Management District. 2002. 124 p. $25.

A study relating hydrologic conditions, soils, and vegetation of floodplain forests to river flow was conducted in the lower Suwannee River, Florida, from 1996 to 2000. The study was done by the U.S. Geological Survey in cooperation with the Suwannee River Water Management District to help determine the minimum flows and levels required for wetlands protection.

P 1658. CALIFORNIA. Crustal structure of the coastal and marine San Francisco Bay region, California, edited by Tom Parsons, U.S. Geological Survey. 2002. 145 p., 2 plates in pocket. $33. Available on the web at
http://geopubs.wr.usgs.gov/prof-paper/pp1658/

This volume contains mostly structured information about the complex system of interacting faults that pose an obvious seismic hazard in the heavily populated San Francisco Bay region. Much of this information has been gathered through exploratory geophysical experiments in the shallowest crust down to the base of the crust—experiments of a style unlikely to be conducted again by the U.S. Geological Survey in the near future.

High-resolution crosshair radar tomography; application to liquefaction-induced changes in soil on Treasure Island, by R. E. Kayen, W. A. Barnhardt, U.S. Geological Survey; Scott Ashford, University of California at San Diego; Kyle Rollins, Brigham Young University; D. L. Minasian, and B. A. Carkin, U.S. Geological Survey. p. 3-10.

Biostratigraphy beneath central San Francisco Bay along the San Francisco-Oakland Bay Bridge transect, by M. L. McGann, U.S. Geological Survey; Doris Sloan, University of California at Berkeley; and Elmira Wan, U.S. Geological Survey. p. 11-28.

Examination of the tsunami generated by the 1906 San Francisco M_w=7.8 earthquake, using new interpretations of the offshore San Andreas Fault, by E. L. Geist and M. L. Zoback, U.S. Geological Survey. p. 29-42.

Concealed strands of the San Andreas Fault system in central San Francisco Bay region, as inferred from aeromagnetic anomalies, by R. C. Jachens, C. M. Wentworth, M. L. Zoback, T. R. Bruns, and C. W. Roberts, U.S. Geological Survey. p. 43-61.

Marine seismic-reflection data acquired in the San Francisco Bay region, 1991-97, by P. E. Hart, J. R. Childs, Tom Parsons, R. W. Slither, D. M. Mann, and Jill McCarthy, U.S. Geological Survey. p. 63-76.

CALIFORNIA. Structure of the submerged San Andreas and San Gregorio fault zones in the Gulf of the Farallones off San Francisco, California, from high-resolution seismic-reflection data, by T. R. Bruns, A. K. Cooper, P. R. Carlson, and D. S. McCulloch, U.S. Geological Survey. p. 77-117.

A review of faults and crustal structure in the San Francisco Bay area as revealed by seismic studies, 1991-97, by Tom Parsons, Jill McCarthy, P. E. Hart, J. A. Hole, J. R. Childs, D. H. Oppenheimer, and M. L. Zoback, U.S. Geological Survey. p. 119-145.

P 1661. WASHINGTON. Crustal deformation at the leading edge of the Oregon Coast Range block, offshore Washington (Columbia River to Hoh River), by P. A. McCrory, D. S. Foster, W. W. Danforth and M. R. Hamer. 2002. 47 p., 2 plates in pocket. (Earthquake hazards of the Pacific Northwest coastal and marine regions, edited by Robert Kayen.) $9.

Determination of slip rates for the Cascadia subduction boundary is complicated by crustal-block motion within the forearc. Structural and geophysical data on the boundary between the Oregon Coast Range block and the Olympic Mountains provide the first constraints on rates of Quaternary structural activity in coastal Washington. The region may accommodate as much as half of the differential motion between the Oregon Coast Range block and stable North America.

P 1662. ALASKA. Studies by the U.S. Geological Survey in Alaska, 2000, edited by F. H. Wilson and J. P. Galloway. 2002. 149 p. Available on the web at http://geopubs.wr.usgs.gov/prof-paper/pp1662/

This collection of eight papers, which continues the series of U.S. Geological Survey (USGS) investigative reports in Alaska on the geological sciences, presents new and sometimes-preliminary findings of interest to earth scientists in academia, government, and industry; to land and resource managers; and to the general public. The papers are organized under the topics Geologic Framework, Hazards, and Environment and Climate, reflecting the scope and objectives of current USGS geologic programs in Alaska.

ALASKA. Geochemistry and age constraints on metamorphism and deformation in the Fortymile River area, eastern Yukon-Tanana Upland, Alaska, by W. C. Day, J. N. Aleinikoff, and B. M. Gamble, U.S. Geological Survey. p. 5-18.

ALASKA. Stratigraphy, age, and geochemistry of Tertiary volcanic rocks and associated synorogenic deposits, Mount McKinley Quadrangle, Alaska, by R. B. Cole, Allegheny College; and P. W. Layer, University of Alaska. p. 19-43.

ALASKA. Stratigraphic and provenance data from the Upper Jurassic to Upper Cretaceous Kahiltna Assemblage of south-central Alaska, by K. R. Eastham and K. D. Ridgeway, Purdue University. p. 45-53.

ALASKA. Late Triassic (Norian) mollusks from the Taylor Mountains Quadrangle, Southwestern Alaska, by C. A. McRoberts, State University of New York at Cortland. p. 55-75.

ALASKA. Notes on the bedrock geology and geography of the Stikine Icefield, Coast Mountains Complex, Southeastern Alaska, by D. A. Brew, U.S. Geological Survey and R. M. Friedman, University of British Columbia. p. 77-86.

Mount Griggs; a compositionally distinctive Quaternary stratovolcano behind the main volcanic line in Katmai National Park, by Wes Hildreth, Judy Fierstein, M. A. Lanphere, and D. F. Siems, U.S. Geological Survey. p. 87-112.

ALASKA. Treeline biogeochemistry and dynamics, Noatak National Preserve, northwestern Alaska, by Robert Stottlemyer, U.S. Geological Survey; Dan Binkley, and Heidi Steltzer, Colorado State University. p. 113-121.

ALASKA. Environmental-geochemical study of the Slate Creek antimony deposit, Kantishna Hills, Denali National Park and Preserve, Alaska, by R. G. Eppinger, P. H. Briggs, J. C. Crock, A. L. Meier, S. J. Sutley, and P. M. Theodorakos, U.S. Geological Survey. p. 123-141.

ALASKA. U. S. Geological Survey reports on Alaska released in 2000, compiled by J. P. Galloway, U.S. Geological Survey. p. 143-134.

ALASKA. Reports on Alaska in non-USGS publications released in 2000 that include U. S. Geological Survey authors, compiled by J. P. Galloway, U.S. Geological Survey. p. 147-149.

P 1669. CALIFORNIA. Age and tectonic significance of volcanic rocks in the northern Los Angeles Basin, California, by T. H. McCulloh; R. J. Fleck, U.S. Geological Survey; R. E. Denison, University of Texas at Dallas; L. A. Beyer, and R. G. Stanley, U.S. Geological Survey. 2002. 24 p. $5. Available on the web at http://geopubs.wr.usgs.gov/prof-paper/pp1669/

Volcanic rocks in the eastern Santa Monica Mountains dated at 17.4 Ma by argon isotopes and by strontium isotope ratios of interbedded fossil carbonates appear to be an early expression of deep crustal magmatism accompanying the earliest extensional tectonism associated with rifting in the Los Angeles Basin.

P 1670. Trace-element deposition in the Cariaco Basin, Venezuela Shelf, under sulfate-reducing conditions; a history of the local hydrography and global climate, 20 ka to the present, by D. Z. Piper and W. E. Dean. 2002. 41 p. $8.50.

Major-element oxides and trace elements were measured in a 10-meter sediment core collected from the oxygen-depleted region of the Cariaco Basin, on the Venezuelan continental shelf. Their accumulation rates have been modeled to give a 20-kyr history of upwelling into the photic zone (that is, primary productivity), bottom-water advection and redox, and provenance.

BULLETINS

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

B 2194. Argon thermochronology of mineral deposits; a review of analytical methods, formulations, and selected applications, by L. W. Snee. 2002. 39 p. Available on the web at http://pubs.usgs.gov/bul/b2194/

$^{40}Ar/^{39}Ar$ geochronology is an experimentally robust and versatile method for constraining time and temperature in geologic processes and is the method most broadly applied in mineral deposit studies. Standard analytical methods and formulations exist, as

does a variety of graphical representations, for evaluating argon data. A broad range of minerals found in mineral deposits, alteration zones, and host rocks commonly is analyzed to provide age, temporal duration, and thermal conditions for mineralization events and processes. Studies from Portugal, England, Colorado, and Western Australia demonstrate the usefulness of the method and the evolution of its applicability.

B 2197. Velocity ratio and its application to predicting velocities, by M. W. Lee. 2003. 15 p. Available on the web at http://pubs.usgs.gov/bul/b2197/

This paper shows a new way of calculating elastic velocities of water-saturated sediments, either consolidated or unconsolidated, based on velocity ratios with classical Biot-Gassmann theory. The effects of porosity, differential pressure, and clay on velocities are incorporated into the formulation through parameters derived from the measured velocities. The formula can effectively be applied to the prediction of S-wave velocity from porosity and P-wave velocity.

B 2198. ALASKA. Alaska coal resources and coalbed methane potential, by R. M. Flores, G. D. Stricker and S. A. Kinney. 2003. 4 p. Available on the web at http://pubs.usgs.gov/bul/b2198/

This report is a summary of a more detailed report on the Alaska coal resources assessment performed during the past few years. Largely untapped, Cretaceous and Tertiary hypothetical coal resources of Alaska are estimated to be as much as 5,500 billion short tons (5,012 billion metric tons). These coal resources are present mainly in the Northern Alaska-North Slope, Central Alaska-Nenana, and Southern Alaska-Cook Inlet coal provinces. These three Alaska coal provinces contain about 87 percent of the total coal resources and represent most of the minable coal beds in Alaska. Coal resources in the three coal provinces are about 5,500 billion short tons (5,013 billion metric tons). Of this total, 19.7 billion short tons (17.9 billion metric tons) are identified coal resources mainly from the Central Alaska-Nenana and Southern Alaska-Cook Inlet coal provinces. Most of the Tertiary coal resources, mainly lignite to subbituminous with minor bituminous and semianthracite, are in the Central Alaska-Nenana and Southern Alaska-Cook Inlet coal provinces with more than 1,600 billion short tons (1,451 billion metric tons) of identified and undiscovered or hypothetical resources. Identified Tertiary coal resources in these two provinces are as much as 19,300 million short tons (17,509 million metric tons). A potential untapped resource in Alaska is coalbed methane (CBM) that has been estimated at a total of 1,000 trillion cubic feet (28 trillion cubic meters) of in-place CBM resources. A large part of the gas resource may be contained in subbituminous coal.

CIRCULARS

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

C 1196-E. Magnesium recycling in the United States in 1998, by D. A. Kramer. 2002. p. E1-E12. (Flow studies for recycling metal commodities in the United States.) Available on the web at http://pubs.usgs.gov/circ/c1196e/

This report discusses the 1998 flow of magnesium in the United States from extraction through its uses, with particular emphasis on recycling. In 1998, the recycling efficiency for magnesium was estimated to be 33 percent—almost 60 percent of the magnesium that was recycled came from new scrap, primarily waste from die-casting operations. The principal source of old scraps was recycled aluminum beverage cans.

C 1196-F. Lead recycling in the United States in 1998, by G. R. Smith. 2002. p. F1-F9. (Flow studies for recycling metal commodities in the United States.) Available on the web at http://pubs.usgs.gov/circ/c1196f/

This materials flow study includes a description of lead supply and demand factors for the United States to illustrate the extent of lead recycling and to identify recycling trends. The quantity of lead recycled in 1998, as a percentage of apparent lead supply, was estimated to be about 63 percent, and recycling efficiency, to be 95 percent. Of the total lead consumed in products for the U.S. market in 1998, an estimated 10 percent was consumed in products in which the lead was not readily recyclable.

C 1224. Assessing ground-water vulnerability to contamination; providing scientifically defensible information for decision makers, by M. J. Focazio, T. E. Reilly, M. G. Rupert and D. R. Helsel. 2002. 33 p. Available on the web at http://water.usgs.gov/pubs/circ/2002/circ1224/

Throughout the United States, increasing demands for safe drinking water and requirements for maintaining healthy ecosystems prompt policymakers to ask complex social and scientific questions about how to assess and manage water resources. Scientifically defensible assessments of the vulnerability of water resources to contamination are crucial components of sound water-resource management decisions. This report provides an overview of the common approaches used to determine the vulnerability of ground-water resources to contamination and discusses the strengths and weaknesses of the various approaches as sources of scientifically defensible information for water-resource decisionmakers. Descriptions of scientifically defensible methods are supported by example studies that have been conducted by the USGS, often in cooperation with local, State, and regional water-resource agencies. This report may be useful as a primer for understanding the science required by water-resource decisionmakers for assessing ground-water vulnerability.

GENERAL INTEREST PUBLICATION

Finfish of the Chesapeake Bay. 2002. Pamphlet.

There are approximately 250 species of fish found in Chesapeake Bay. Some, like bay anchovies, are permanent residents. The residents tend to be small in size and do not travel great distances. Most of the larger fish species of Chesapeake Bay are temporary residents, living in the Bay only for part of the year or during certain stages of their life cycles. The migratory species fall into several categories: anadromous fish, catadromous fish, and seasonal fish. Representative resident and migratory species are described in this brochure.

MISCELLANEOUS AND SPECIAL BOOKS

Geographic Names Information System (GNIS)

GNIS, developed by the Geographic Names Office, Mapping Applications Center, is the basis for the Digital Gazetteer of the United States (CD-ROM) and includes all names in the data base as of July 1999, as well as the necessary software for searching, analyzing, and exporting the data. The software must be installed onto an IBM-compatible hard disk before the data can be used. The CD-ROM, which can be purchased for $57 plus $5.00 shipping, contains the National Geographic Names Data Base (NGNDB), Antarctica Geographic Names Data Base (AGNDB), Topographic Map Names Data Base (TMNDB), and Reference Data Base (RDB). Each record in the NGNDB, AGNDB, and TMNDB can contain a variety of location and description fields. All can be displayed, and most can be searched. Not all fields, however, contain data. The RDB contains one field—bibliography. The CD-ROM is no longer accompanied by a users manual. The installation procedures, readme file, and trouble shooting guide are provided in WordPerfect, HTML, and PDF formats. All necessary information regarding startup procedures are listed in the "Getting_Started" directory on the CD.

The GNIS CD-ROM may be ordered from Information Services, U.S. Geological Survey, DFC, Building 810, MS 306, Denver, CO 80225, or by telephoning 1-888-ASK-USGS. Prepayment is required. Please make check or money order payable to Department of the Interior—USGS. VISA, MasterCard, American Express, and Discover Card are accepted. Prices are subject to change.

Information and Technical Specifications may be requested from U.S. Geological Survey, Manager GNIS, 523 National Center, Reston, VA 20192. 703-648-4544.

Other Special Books

USGS/BRD/BSR 2002-0006. OREGON. Managing for biodiversity in young Douglas-fir forests of western Oregon, by P. S. Muir, R. L. Mattingly, J. C. Tappeiner, II, J. D. Bailey, W. E. Elliott, J. C. Hagar, J. C. Miller, E. B. Peterson and E. E. Starkey. 2002. 76 p.

FACT SHEETS

Fact Sheets are used to disseminate timely information on scientific and technical programs of the U.S. Geological Survey and are available, at no cost, from USGS Information Services, Box 25286, Denver, CO 80225.

FS 0183-99. TEXAS. Town Lake bottom sediments; a chronicle of water-quality changes in Austin, Texas, 1960-98, by P. C. Van Metre and B. J. Mahler. Prepared in cooperation with the City of Austin. 1999. 6 p. Available on the web at http://tx.usgs.gov/biblio/pdfs/FS_183-99.pdf

FS 0056-01. U. S. Geological Survey Ground-Water Resources Program, 2001, by N. G. Grannemann. 2001. 2 p. Available on the web at http://water.usgs.gov/ogw/gwrp/fs2001/

FS 0014-02. NEW YORK. New York water-use program and data, 1995, by D. S. Lumia and K. S. Linsey. 2002. 6 p. Available on the web at http://ny.usgs.gov/pubs/fs/fs01402/

FS 0077-02. Monitoring our rivers and streams, by M. L. Erwin and P. A. Hamilton. 2002. 4 p. Available on the web at http://water.usgs.gov/pubs/FS/fs-077-02/

FS 0084-02. Using the National Flood Frequency Program, version 3; a computer program for estimating magnitude and frequency of floods for ungaged sites, by C. D. Perl and K. G. Ries, III. 2002. 4 p.

FS 0089-02. The loads of selected herbicides in the Ohio River basin, 1997-2000, by A. S. Crain. 2002. 4 p. Available on the web at http://ky.water.usgs.gov/pubs/FAC_08902.htm

FS 0105-02. Cooperative Topographic Mapping Program. 2002. 2 p. Available on the web at http://mac.usgs.gov/mac/isb/pubs/factsheets/fs10502.html

FS 0106-02. *The National Map*; elevation. 2002. 2 p. Available on the web at http://mac.usgs.gov/mac/isb/pubs/factsheets/fs10602.html

FS 0107-02. *The National Map*; orthoimagery. 2002. 2 p. Available on the web at http://mac.usgs.gov/mac/isb/pubs/factsheets/fs10702.html

FS 0108-02. *The National Map*; geographic names. 2002. 2 p. Available on the web at http://mac.usgs.gov/mac/isb/pubs/factsheets/fs10802.html

FS 0110-02. TEXAS. Houston-Galveston Bay area, Texas, from space; a new tool for mapping land subsidence, by S. V. Stork and M. Sneed. Prepared in cooperation with the U.S. Fish and Wildlife Service. 2002. 6 p.

FS 0114-02. PENNSYLVANIA. Assessment of stream quality using biological indices at selected sites in the Schuylkill River basin, Chester County, Pennsylvania, 1981-97, by A. G. Reif. Prepared in cooperation with the Chester County Water Resources Authority. 2002. 4 p. Available on the web at http://pa.water.usgs.gov/reports/fs114-02.pdf

FS 0115-02. PENNSYLVANIA. Assessment of stream quality using biological indices at selected sites in the Big Elk and Octoraro Creek basins, Chester County, Pennsylvania, 1981-97, by A. G. Reif. Prepared in cooperation with the Chester County Water Resources Authority. 2002. 4 p. Available on the web at http://pa.water.usgs.gov/reorts/fs115-02.pdf

FS 0116-02. PENNSYLVANIA. Assessment of stream quality using biological indices at selected sites in the Delaware River basin, Chester County, Pennsylvania, 1981-97, by A. G. Reif. Prepared in cooperation with the Chester County Water Resources Authority. 2002. 4 p. Available on the web at http://pa.water.usgs.gov/reports/fs116-02.pdf

FS 0117-02. PENNSYLVANIA. Assessment of stream quality using biological indices at selected sites in the Brandywine Creek basin, Chester County, Pennsylvania, 1981-97, by A. G. Reif. Prepared in cooperation with the Chester County Water Resources Authority. 2002. 4 p. Available on the web at http://pa.water.usgs.gov/reports/fs117-02.pdf

FS 0118-02. PENNSYLVANIA. Assessment of stream quality using biological indices at selected sites in the Red Clay and White Clay Creek basins, Chester County, Pennsylvania, 1981-97, by A. G. Reif. Prepared in cooperation with the Chester County Water Resources Authority. 2002. 4 p. Available on the web at http://pa.water.usgs.gov/reports/fs118-02.pdf

FS 0130-02. Satellite image atlas of glaciers of the world, by R. S. Williams, Jr. and J. G. Ferrigno. 2002. 2 p. (Supersedes Fact Sheet

133-99 and Fact Sheet 94-009.) Available on the web at http://pubs.usgs.gov/fs/fs130-02/

FS 0131-02. Earthquake hazard in the heart of the homeland, by Joan Gomberg and Eugene Schweig. 2002. 4 p. Available on the web at http://pubs.usgs.gov/fs/fs-131-02/

The U.S. Geological Survey produces earthquake (seismic) hazard maps on a national scale and for select urban areas. Earthquake hazard maps depict the ground shaking that is expected to be exceeded at a selected probability (or chance) over a specific time period. One of the prominent features on the national seismic hazard maps is a zone of high hazard surrounding the New Madrid region in the central United States. The hazard in this region is as high as for places in California, despite a lower level of modern-day earthquake activity.

FS 0149-02. Assessment of undiscovered oil and gas resources in selected Rocky Mountain provinces for the Energy Policy and Conservation Act of 2000 (EPCA 2000), by U. S. Geological Survey, EPCA 2000 Assessment Team. 2002. 2 p. Available on the web at http://pubs.usgs.gov/fs/fs-149-02/

FS 0157-02. COLORADO, UTAH. Assessment of undiscovered oil and gas resources of the Uinta-Piceance Province of Colorado and Utah, 2002, by U. S. Geological Survey, Uinta-Piceance Assessment Team. 2003. 2 p. (Supersedes Fact Sheet 026-02.) Available on the web at http://pubs.usgs.gov/fs/fs-157-02/

FS 0158-02. Coal-bed gas resources of the Rocky Mountain region, by C. J. Schenk, V. F. Nuccio, R. M. Flores, R. C. Johnson, S. B. Roberts, T. M. Finn and J. Ridgley. 2003. 2 p. (Supersedes Fact Sheet 110-01.) Available on the web at http://pubs.usgs.gov/fs/fs-158-02/

FS 0002-03. 2002 USGS assessment of oil and gas resource potential of the Denver Basin Province of Colorado, Kansas, Nebraska, South Dakota, and Wyoming, by U. S. Geological Survey, Denver Basin Assessment Team. 2003. 4 p. Available on the web at http://pubs.usgs.gov/fs/fs-002-03/

FS 0009-03. Assessment of undiscovered oil and gas resources of the Appalachian Basin Province, 2002, by U. S. Geological Survey, Appalachian Basin Assessment Team. 2003. 2 p. Available on the web at http://pubs.usgs.gov/fs/fs-009-03/

Using a geology-based assessment methodology, the U.S. Geological Survey estimated a mean of 70.2 trillion cubic feet of undiscovered natural gas, a mean 54 million barrels of undiscovered oil, and a mean of 872 million barrels of undiscovered natural gas liquids in the Appalachian Basin Province.

FS 0012-03. ANSS; Advanced National Seismic System; advancing national seismic safety, accomplishments FY2002, by Jill McCarthy. 2003. 2 p. Available on the web at http://pubs.usgs.gov/fs/fs-012-03/

FS 0014-03. ALASKA. Rupture in south-central Alaska; the Denali Fault earthquake of 2002, compiled by G. S. Fuis, L. A. Wald, J. W. Hendley, II and P. H. Stauffer. 2003. 4 p. Available on the web at http://geopubs.wr.usgs.gov/fact-sheet/fs014-03/

FS 0015-03. A proposal for upgrading the national-scale soil geochemical database for the United States, by D. B. Smith, M. B. Goldhaber; U.S. Geological Survey; M. A. Wilson, and Rebecca Burt, Natural Resources Conservation Service. 2003. 2 p. Available on the web at http://pubs.usgs.gov/fs/fs-015-03/

FS 0017-03. The USGS Earthquake Hazards Program in NEHRP; investing in a safer future, by J. R. Filson, Jill McCarthy, W. L. Ellsworth, M. L. Zoback, P. H. Stauffer and J. W. Hendley, II. 2003. 6 p. Available on the web at http://geopubs.wr.usgs.gov/fact-sheet/fs017-03/

MINERALS INFORMATION PERIODICALS

Many Information Periodicals products are available through the systems or formats listed below:

CD-ROM: The U.S. Geological Survey's Minerals and Materials Information CD-ROM is updated three times a year (February, June, and October) and is sold by the U.S. Government Printing Office's Superintendent of Documents. The CD-ROM includes Minerals Yearbook chapters, Mineral Commodity Summaries, Statistical Compendium, Metal Prices in the United States, and other publications. For information on CD-ROM products in this series, contact Roger Loebenstein at 703-648-4752.

Internet/World Wide Web: Text and graphics. Access via PC-based browsing software such as Netscape or Mosaic. The URL is http://minerals.usgs.gov/minerals/

Internet System Administrator: jgambogi@usgs.gov

METAL INDUSTRY INDICATORS

The Metal Industry Indicators (MII) is a monthly online newsletter that analyzes and forecasts the economic health of five metal industries with composite leading and coincident indexes. These industries are primary metals, steel, copper, primary and secondary aluminum, and aluminum mill products. Each month, these indexes are analyzed along with any economywide occurrences that would affect the metal industries. The MII also contains a leading index of metal prices that anticipates changes in the growth rate of a composite nonferrous metals price index for primary aluminum, copper, lead, and zinc. The MII is available on the Internet at http://minerals.usgs.gov/minerals/pubs/. For more information contact Gail James 703-648-4915 or Ken Beckman 703-648-4916.

STONE, CLAY, GLASS, AND CONCRETE PRODUCTS INDUSTRY INDEXES

The Stone, Clay, Glass, and Concrete Products Industry Indexes is a monthly report that analyzes and forecasts the economic health of this broad manufacturing industry using composite leading and coincident indexes. These indexes are similar to the ones in the newsletter, Metal Industry Indicators. This report is available on the Internet (http://minerals.usgs.gov/minerals/pubs/). Historical data for the indexes are available back to 1948. For more information contact Gail James 703-648-4915 or Ken Beckman 703-648-4916.

MINERAL INDUSTRY SURVEYS

The Mineral Industry Surveys (MIS) are periodic online statistical and economic reports designed to provide timely statistical data on production, distribution, stocks, and consumption of significant mineral commodities. The surveys are issued monthly, quarterly, annually, or at other regular intervals, depending on the need for current data. The MIS are published by commodi-

ties as well as by States. MIS are available on the Internet at http://minerals.usgs.gov/minerals/pubs/.

MINERAL COMMODITY SUMMARIES

Published on an annual basis, the Mineral Commodity Summaries is the earliest Government publication to furnish estimates covering nonfuel mineral industry data. Data sheets contain information on the domestic industry structure, Government programs, tariffs, and 5-year salient statistics for over 90 individual minerals and materials. The 2001 edition is available from the Government Printing Office, stock number 024-004-02503-4, $27.00 domestic; $33.75 foreign. Data sheets are also available on the Internet (http://minerals.usgs.gov/minerals/pubs/).

MINERALS YEARBOOK

The Minerals Yearbook discusses the performance of the worldwide minerals and materials industry during a calendar year, and it provides background information to assist in interpreting that performance. Content of the individual Minerals Yearbook volumes follows:

Volume I, Metals and Minerals, contains chapters about virtually all metallic and industrial mineral commodities important to the U.S. economy. Chapters on survey methods, summary statistics for domestic nonfuel minerals, and trends in mining and quarrying in the metals and industrial minerals industries in the United States are also included.

Volume II, Area Reports: Domestic, contains a chapter on the minerals industry of each of the 50 States and Puerto Rico and the Administered Islands. This volume also has chapters on survey methods and summary statistics for domestic nonfuel minerals.

Volume III, Area Reports: International, is published as four separate reports. These reports collectively contain the latest available mineral data on more than 190 foreign countries and discuss the importance of minerals to the economies of these nations and the United States. Each report begins with an overview of the region's mineral industries during the year. It continues with individual country chapters that examine the mining, refining, processing, and utilization of minerals in each country of the region and how they relate to U.S. industry. Most chapters include production and industry structure tables, information about Government policies and programs affecting the country's minerals industry, and an outlook section.

For information on the latest products, please contact Linda Borden 703-648-4753. Information is also available on the Internet (http://minerals.usgs.gov/minerals/pubs/).

INFORMAL REPORTS

WATER-RESOURCES INVESTIGATIONS REPORTS

Water-resources investigations reports are interpretive publications made available to the public outside the formal USGS publications series.

The following WRI reports, priced as indicated, are available from USGS Information Services, Box 25286, Federal Center, Denver, CO 80225 (telephone 303-202-4700). For specific ordering instructions, please refer to "Availability of USGS Products by Mail," on the inside back cover. When ordering, use the WRI number preceding each item. A handling fee of $5.00 per order applies.

In the water-resources investigations report and the open-file report listings that follow, offices where reports may be inspected but not purchased are identified by the symbols listed below:

A	Earth Science Information Center, Rm. 101, 4230 University Dr., Anchorage, AK 99508-4664.
Da	Library, Rm. C2002, Bldg. 20, Denver Federal Center, Lakewood, CO 80225.
F	Library, 2255 North Gemini Dr., Flagstaff, AZ 86001.
M	Library, 345 Middlefield Rd., Menlo Park, CA 94025.
NC	Library, Rm. 1C402, National Center, 12201 Sunrise Valley Dr., Reston, VA 20192.

WRI 80-1124. WASHINGTON. Preliminary evaluation of lake susceptibility to water-quality degradation by recreational use, Alpine Lakes Wilderness Area, Washington, by R. J. Gilliom, D. P. Dethier, S. A. Safioles and P. L. Heller. Prepared in cooperation with the U. S. Forest Service, Washington Department of Game. 1980. 1 over-size sheet, scale 1:100,000 (1 inch = about 1.6 miles). (NC, Da, M.) $4.

WRI 99-4141. PUERTO RICO. Assessment of habitats, biota, sediments, and water quality near the discharge of primary-treated effluent from the Mayagüez Regional Wastewater Treatment Plant, Bahia de Añasco, Puerto Rico, by R. M. T. Webb, P. D. Collar, W. C. Schwab, Carlos Goenaga, J. R. García and Roberto Castro. Prepared in cooperation with the Puerto Rico Aqueduct and Sewer Authority. 2000. 196 p. (NC, Da, M.) $4.

WRI 01-4044. Standards for the analysis and processing of surface-water data and information using electronic methods, by V. B. Sauer. 2002. 91 p. (NC, Da, M.) $4.

WRI 01-4068. ILLINOIS. Habitat, biota, and sediment in the lower Illinois River basin, Illinois, 1996-98, by D. L. Adolphson, D. J. Fazio and M. A. Harris. National Water-Quality Assessment Program. 2001. 52 p. (NC, Da, M.) $4.

WRI 01-4165. NEW YORK. Water-table and potentiometric surface-altitudes of the upper glacial, Magothy, and Lloyd aquifers on Long Island, New York, in March-April 2000, with a summary of hydrogeologic conditions, by Ronald Busciolano. Prepared in cooperation with the New York State Department of Environmental Protection; Suffolk County Department of Health Services; Suffolk County Water Authority. 2002. 17 p., 6 over-size sheets, scale 1:125,000 (1 inch = about 2 miles). (NC, Da, M.) $4.

WRI 01-4171. NEW YORK. Simulation of a valley-fill aquifer system to delineate flow paths, contributing areas, and traveltime to wellfields in southwestern Broome County, New York, by S. W. Wolcott and W. F. Coon. Prepared in cooperation with the U.S. Environmental Protection Agency; New York State Department of Environmental Conservation. 2001. 25 p. (NC, Da, M.) $4.

WRI 01-4249. NEW JERSEY. Comparisons of water quality during various streamflow conditions in five streams in northern New Jersey, 1982-97, by Kathryn Hunchak-Kariouk. Prepared in cooperation with the Delaware River Basin Commission. 2002. 40 p. (NC, Da, M.) $4.

WRI 01-4251. Twentieth century arroyo changes in Chaco Culture National Historical Park, by A. C. Gellis. Prepared in cooperation with the National Park Service. 2002. 42 p. (NC, Da, M.) $4.

WRI 02-4007. NEW MEXICO. Estimation of alluvial-fill thickness in the Mimbres ground-water basin, New Mexico, from interpretation of isostatic residual gravity anomalies, by C. E. Heywood. Prepared in cooperation with the New Mexico Office of the State Engineer. 2002. 15 p. (NC, Da, M.) $4.

WRI 02-4062. ILLINOIS. Delineation of the Troy Bedrock Valley and particle-tracking analysis of ground-water flow underlying Belvidere, Illinois, by P. C. Mills, K. J. Halford and R. P. Cobb. Prepared in cooperation with the Illinois Environmental Protection Agency; U.S. Environmental Protection Agency. 2002. 46 p. (NC, Da, M.) $4.

WRI 02-4063. NEW YORK. Concentrations of pesticides and pesticide degradates in the Croton River watershed in southeastern New York, July-September 2000, by P. J. Phillips and R. W. Bode. 2002. 20 p. (NC, Da, M.) $4.

WRI 02-4066. COLORADO, WYOMING. The effects of atmospheric nitrogen deposition in the Rocky Mountains of Colorado and southern Wyoming; a synthesis and critical assessment of published results, by D. A. Burns. Prepared in cooperation with the Rocky Mountain National Park. 2002. 36 p. (NC, Da, M.) $4.

WRI 02-4079. A national survey of methyl tert-butyl ether and other volatile organic compounds in drinking-water sources; results of the random survey, by S. J. Grady. Prepared in cooperation with the Metropolitan Water District of Southern California; Oregon Health & Science University; American Water Works Association Research Foundation. 2003. 85 p. (NC, Da, M.) $4.

WRI 02-4085. Occurrence and status of volatile organic compounds in ground water from rural, untreated, self-supplied domestic wells in the United States, 1986-99, by M. J. Moran, W. W. Lapham, B. L. Rowe and J. S. Zogorski. National Water-Quality Assessment Program. 2002. 51 p. (NC, Da, M.) $4.

WRI 02-4091. TENNESSEE. Hydrogeology and ground-water-flow simulation of the Cave Springs area, Hixson, Tennessee, by C. J. Haugh. Prepared in cooperation with the Hixson Utility District. 2002. 57 p. (NC, Da, M.) $4.

WRI 02-4094. SOUTH DAKOTA. Hydrology of the Black Hills area, South Dakota, by D. G. Driscoll, J. M. Carter, J. E. Williamson and L. D. Putnam. Prepared in cooperation with the South Dakota Department of Environment and Natural Resources; West Dakota Water Development District. 2002. 150 p. (NC, Da, M.) $4.

WRI 02-4102. NEVADA, CALIFORNIA. A three-dimensional numerical model of predevelopment conditions in the Death Valley regional ground-water flow system, Nevada and California, by F. A. D'Agnese, G. M. O'Brien, C. C. Faunt, W. R. Belcher and Carma San Juan. Prepared in cooperation with the U.S. Department of Energy, Office of Environmental Restoration and Waste Management; National Nuclear Security Administration, Nevada Operations Office. 2002. 114 p. (NC, Da, M.) $4.

WRI 02-4121. DELAWARE. Distribution and mass loss of volatile organic compounds in the surficial aquifer at sites FT03, LF13, and WP14/LF15, Dover Air Force Base, Delaware, November 2000-February 2001, by J. R. Barbaro and P. P. Neupane. Prepared in cooperation with the United States Air Force, Dover Air Force Base. 2002. 63 p. (NC, Da, M.) $4.

WRI 02-4136. CALIFORNIA. Simulation of ground-water/surface-water flow in the Santa Clara-Calleguas ground-water basin, Ventura County, California, by R. T. Hanson, Peter Martin and K. M. Koczot. 2003. 157 p. Available on the web at http://water.usgs.gov/pubs/wri/wri024136/text.html

WRI 02-4137. MASSACHUSETTS. Streamflow, water quality, and contaminant loads in the lower Charles River watershed, Massachusetts, 1999-2000, by R. F. Breault, J. R. Sorenson and P. K. Weiskel. Prepared in cooperation with the U.S. Environmental Protection Agency; Massachusetts Department of Environmental Protection; Massachusetts Water Resources Authority. 2002. 131 p. (NC, Da, M.) $4.

WRI 02-4141. NEVADA. Results of hydraulic tests in Miocene tuffaceous rocks at the C-hole complex, 1995 to 1997, Yucca Mountain, Nye County, Nevada, by A. L. Geldon, A. M. A. Umari, M. F. Fahy, J. D. Earle, J. M. Gemmell and Jon Darnell. Prepared in cooperation with the U.S. Department of Energy. 2002. 58 p. (NC, Da, M.) $4.

WRI 02-4167. OHIO. Hydrogeology, ground-water use, and ground-water levels in the Mill Creek valley near Evandale, Ohio, by Charles Schalk and Thomas Schumann. Prepared in cooperation with the U.S. Air Force Aeronautical Systems Center. 2002. 33 p., 11 over-size sheets. Available on the web at http://oh.water.usgs.gov/reports/Abstracts/wrir02-4167.html

WRI 02-4168. The National Flood Frequency Program, version 3; a computer program for estimating magnitude and frequency of floods for ungaged sites, compiled by K. G. Ries, III and M. Y. Crouse. 2002. 42 p. (NC, Da, M.) $4.

History and overview of flood regionalization methods, by W. O. Thomas, Jr. and K. G. Ries, III. p. 3-4.

Rural flood-frequency estimating techniques, by K. G. Ries, III, W. O. Thomas, Jr. and J. B. Atkins. p. 5-7.

Urban flood-frequency estimating techniques, by V. B. Sauer. p. 8-10.

Flood hydrograph estimation, by V. B. Sauer. p. 11.

Estimation of extreme floods, by W. O. Thomas, Jr. and W. H. Kirby. p. 12-14.

Testing and validation of techniques, by K. G. Ries, III. p. 15.

Applicability and limitations, by J. B. Atkins and K. G. Ries, III. p. 16.

Summary of state flood-frequency techniques, by K. G. Ries, III, H. C. Riggs and W. O. Thomas, Jr. p. 17.

Appendix A; National Flood Frequency Program users' manual, by R. Dusenbury, M. Gray and K. G. Ries, III. p. 21-40.

WRI 02-4186. Guidance on the use of passive-vapor-diffusion samplers to detect volatile organic compounds in ground-water-discharge areas, and example applications in New England, by P. E. Church, D. A. Vroblesky, F. P. Lyford and R. E. Willey. 2002. 79 p. (NC, Da, M.) $4.

Guidance on the use of passive-vapor diffusion samplers, by D. A. Vroblesky. p. 5-18.

MAINE. Eastern Surplus Company Superfund Site, Meddybemps, Maine, by F. P. Lyford and E. M. Hathaway. p. 20-24.

MAINE. McKin Company Superfund Site, Gray, Maine, by F. P. Lyford, T. R. Connelly and L. E. Flight. p. 25-28.

CONNECTICUT. Nutmeg Valley Road Superfund Site, Wolcott and Waterbury, Connecticut, by J. R. Mullaney, P. E. Church and C. J. Pina-Springer. p. 28-33.

MASSACHUSETTS. Baird & McGuire Superfund Site, Holbrook, Massachusetts, by J. G. Savoie and M. G. Taylor. p. 34-36.

RHODE ISLAND. Allen Harboro Landfill, Davisville Naval Construction Battalion Center Superfund Site, North Kingstown, Rhode Island, by F. P. Lyford, W. C. Brandon and C. A. P. Williams. p. 37-40.

RHODE ISLAND. Calf Pasture Point, Davisville Naval Construction Battalion Center Superfund Site, North Kingstown, Rhode Island, by F. P. Lyford, C. A. P. Williams and W. C. Brandon. p. 40-43.

MASSACHUSETTS. Otis Air National Guard/Camp Edwards Superfund Site, Johns Pond, Falmouth, Massachusetts, by J. G. Savoie and D. R. LeBlanc. p. 43-48.

MASSACHUSETTS. Nyanza Chemical Waste Dump Superfund Site, Ashland, Massachusetts, by F. P. Lyford, R. E. Willey and S. M. Hayes. p. 48-52.

RHODE ISLAND. Centredale Manor Restoration Project Superfund Site, North Providence, Rhode Island, by P. E. Church, F. P. Lyford and A. F. Krasko. p. 52-58.

Appendix 1; Laboratory and field testing of passive-vapor-diffusion sampler equilibration times, temperature effects, and sample stability, by D. A. Vroblesky. p. 63-72.

Appendix 2; Field screening of volatile organic compounds collected with passive-vapor-diffusion samplers with a gas chromatograph, by Scott Clifford. p. 73-79.

WRI 02-4188. COLORADO, NEW MEXICO, TEXAS. Water-quality assessment of the Rio Grande Valley, Colorado, New Mexico, and Texas; surface-water quality, shallow ground-water quality, and factors affecting water quality in the Rincon Valley, south-central New Mexico, 1994-95, by S. K. Anderholm. National Water-Quality Assessment Program. 2002. 117 p. (NC, Da, M.) $4.

WRI 02-4195. IDAHO. Statistical model for estimating stream temperature in the Salmon and Clearwater River basins, central Idaho, by M. M. Donato. Prepared in cooperation with the Idaho Department of Environmental Quality. 2002. 39 p. (NC, Da, M.) $4. Available on the web at http://idaho.usgs.gov/PDF/wri024195/index.html

WRI 02-4207. FLORIDA. Hydrogeology and simulated effects of ground-water withdrawals from the Floridan aquifer system in Lake County and in the Ocala National Forest and vicinity, north-central Florida, by Leel Knowles, Jr., A. M. O'Reilly and J. C. Adamski. Prepared in cooperation with the Lake County Water Authority; Saint Johns River Water Management District; Southwest Florida Water Management District. 2002. 139 p. (NC, Da, M.) $4.

WRI 02-4213. INDIANA, ILLINOIS. Use of isotopes to identify sources of ground water, estimate ground-water-flow rates, and assess aquifer vulnerability in the Calumet region of northwestern Indiana and northeastern Illinois, by R. T. Kay, E. R. Bayless and R. A. Solak. Prepared in cooperation with the U.S. Environmental Protection Agency. 2002. 60 p. (NC, Da, M.) $4.

WRI 02-4215. MISSISSIPPI. Streamflow and nutrient data for the Yazoo River below Steele Bayou near Long Lake, Mississippi, 1996-2000, by M. S. Runner, D. P. Turnipseed and R. H. Coupe. National Water-Quality Assessment Program. 2002. 35 p. (NC, Da, M.) $4.

WRI 02-4217. CONNECTICUT. Streamflow in the Quinnipiac River basin, Connecticut; statistics and trends, 1931-2000, by E. A. Ahearn. Prepared in cooperation with the Connecticut Department of Environmental Protection. 2002. 42 p. (NC, Da, M.) $4.

WRI 02-4220. MASSACHUSETTS. Potential effects of structural controls and street sweeping on stormwater loads to the lower Charles River, Massachusetts, by P. J. Zarriello, R. F. Breault and P. K. Weiskel. Prepared in cooperation with the U.S. Environmental Protection Agency; Massachusetts Department of Environmental Protection; Massachusetts Water Resources Authority. 2002. 42 p. (NC, Da, M.) $4.

WRI 02-4222. Methods of analysis by the U. S. Geological Survey National Water Quality Laboratory; determination of organophosphate pesticides in bottom sediment by gas chromatography with flame photometric detection, by V. K. Jha and D. S. Wydoski. 2003. 30 p. (NC, Da, M.) $4.

WRI 02-4224. COLORADO, NEW MEXICO, TEXAS. Spatial and temporal variations in streamflow, dissolved solids, nutrients, and suspended sediment in the Rio Grande Valley study unit, Colorado, New Mexico, and Texas, by S. J. Moore and S. K. Anderholm. National Water-Quality Assessment Program. 2002. 52 p. (NC, Da, M.) $4. Available on the web at http://nm.water.usgs.gov/publications/abstracts/wrir02-4224.html

WRI 02-4227. MISSOURI. Water-quality and ground-water hydrology of the Columbia/Eagle Bluffs wetland complex, Columbia, Missouri; 1992-99, by J. M. Richards. 2002. 131 p. (NC, Da, M.) $4. Available on the web at http://mo.water.usgs.gov/Reports/WRIR02-4227-Richards/index.htm

WRI 02-4228. KANSAS. Quality of shallow ground water in areas of recent residential and commercial development, Wichita, Kansas, 2000, by L. M. Pope, B. W. Bruce, P. P. Rasmussen and C. R. Milligan. National Water-Quality Assessment Program. 2002. 67 p. (NC, Da, M.) $4. Available on the web at http://ks.water.usgs.gov/Kansas/pubs/reports/wrir.02-4228.html

WRI 02-4229. MAINE. Observed and predicted pier scour in Maine, by Glenn Hodgkins and Pamela Lombard. Prepared in cooperation with the Maine Department of Transportation. 2002. 22 p. (NC, Da, M.) $4. Available on the web at http://me.water.usgs.gov/wrir02-4229.pdf

WRI 02-4233. NEW MEXICO. Estimated water-level declines in the Santa Fe Group aquifer system in the Albuquerque area, central New Mexico, predevelopment to 2002, by L. M. Bexfield and S. K. Anderholm. Prepared in cooperation with the City of Albuquerque. 2002. 1 over-size sheet. (NC, Da, M.) $4.

WRI 02-4234. MASSACHUSETTS. Simulation of ground-water flow and evaluation of water-management alternatives in the upper Charles River basin, eastern Massachusetts, by L. A. DeSimone, D. A. Walter, J. R. Eggleston and M. T. Nimiroski. Prepared in cooperation with the Massachusetts Department of Envi-

ronmental Management; Massachusetts Department of Environmental Protection. 2002. 94 p. (NC, Da, M.) $4.

WRI 02-4235. NEW MEXICO. Ground displacements caused by aquifer-system water-level variations observed using interferometric synthetic aperture radar near Albuquerque, New Mexico, by C. E. Heywood, D. L. Galloway and S. V. Stork. Prepared in cooperation with the City of Albuquerque. 2002. 18 p. (NC, Da, M.) $4.

WRI 02-4238. VERMONT. Flow-frequency characteristics of Vermont streams, by S. A. Olson. Prepared in cooperation with the Vermont Agency of Transportation. 2002. 47 p. (NC, Da, M.) $4.

WRI 02-4239. CALIFORNIA. Detection and measurement of land subsidence using Global Positioning System and interferometric synthetic aperture radar, Coachella Valley, California, 1998-2000, by Michelle Sneed, S. V. Stork and M. E. Ikehara. Prepared in cooperation with the Coachella Valley Water District. 2002. 29 p. Available on the web at http://water.usgs.gov/pubs/wri/wri024239/

WRI 02-4241. TEXAS. Simulation of runoff and recharge and estimation of constituent loads in runoff, Edwards Aquifer recharge zone (outcrop) and catchment area, Bexar County, Texas, 1997-2000, by D. J. Ockerman. Prepared in cooperation with the San Antonio Water System. 2002. 31 p. (NC, Da, M.) $4.

WRI 02-4244. GEORGIA, FLORIDA, ALABAMA. Stream-aquifer relations and the potentiometric surface of the upper Floridan Aquifer in the lower Apalachicola-Chattahoochee-Flint River basin in parts of Georgia, Florida, and Alabama, 1999-2000, by M. S. Mosner. Prepared in cooperation with the Georgia Department of Natural Resources, Environmental Protection Division, Georgia Geologic Survey. 2002. 45 p., 1 over-size sheet. (NC, Da, M.) $4.

WRI 02-4252. NEW HAMPSHIRE. Assessment of environmental factors affecting fecal-coliform concentrations in Hampton/Seabrook Harbor, New Hampshire, 2000-01, by J. R. Deacon and W. C. Nash. Prepared in cooperation with the New Hampshire Department of Environmental Services. 2002. 17 p. (NC, Da, M.) $4.

WRI 02-4265. MISSOURI. Base (100-year) flood elevations for selected sites in Livingston County, Missouri, by R. E. Southard and J. M. Richards. Prepared in cooperation with the State Emergency Management Agency. 2002. 34 p. (NC, Da, M.) $4.

WRI 02-4266. TENNESSEE. Duration and frequency analysis of lowland flooding in western Murfreesboro, Rutherford County, Tennessee, 1998-2000, by G. S. Law. Prepared in cooperation with the City of Murfreesboro. 2002. 30 p. (NC, Da, M.) $4.

WRI 02-4271. PENNSYLVANIA. Case study for delineating a contributing area to a well in a fractured siliciclastic-bedrock aquifer near Lansdale, Pennsylvania, by G. J. Barton, D. W. Risser, D. G. Galeone and D. J. Goode. Prepared in cooperation with the Pennsylvania Department of Environmental Protection. 2003. 46 p. (NC, Da, M.) Available on the web at http://pa.water.usgs.gov/reports/wrir02-4271.pdf

WRI 02-4273. PENNSYLVANIA. Ground-water availability in part of the borough of Carroll Valley, Adams County, Pennsylvania, and the establishment of a drought-monitor well, by D. J. Low and R. W. Conger. Prepared in cooperation with the Borough of Carroll Valley. 2002. 78 p. (NC, Da, M.) Available on the web at http://pa.water.usgs.gov/reports/wrir02-4273.pdf

WRI 02-4278. MASSACHUSETTS. Simulation of reservoir storage and firm yields of three surface-water supplies, Ipswich River basin, Massachusetts, by P. J. Zarriello. Prepared in cooperation with the Massachusetts Department of Environmental Protection. 2002. 50 p. (NC, Da, M.) $4.

WRI 02-4283. OREGON, WASHINGTON. Total dissolved gas and water temperature in the lower Columbia River, Oregon and Washington, 2002; quality-assurance data and comparison to water-quality standards, by D. Q. Tanner, M. W. Johnston and H. M. Bragg. Prepared in cooperation with the U.S. Army Corps of Engineers. 2002. 12 p. (NC, Da, M.) $4.

WRI 02-4292. KANSAS. Estimates of median flows for streams on the Kansas Surface Water Register, by C. A. Perry, D. M. Wolock and J. C. Artman. Prepared in cooperation with the Kansas Department of Health and Environment. 2002. 107 p., 3 over-size sheets, scale 1:750,000 (1 inch = about 12 miles). (NC, Da, M.) $4.

OPEN-FILE REPORTS

Open-file reports include unpublished manuscript reports, maps, and other material that are made available for public consultation at depositories. They are a nonpermanent form of publication that may be cited in other publications as sources of information.

Most open-file reports are available from USGS Information Services, Box 25286, Federal Center, Denver, CO 80225 (telephone: 1-888-ASK-USGS or 303-202-4700; fax: 303-202-4693). The following listing of open-file reports is subdivided to show which reports are available from the Denver facility and which ones are not. Specific instructions for ordering and availability of reports are given under each sublisting.

Open-file reports are also available for inspection only, **not for purchase**, at additional locations indicated in each open-file listing. Symbols for these locations are defined in the water-resources investigations reports listings.

Reports Available Only Through USGS Information Services

Copies of most reports may be obtained from USGS Information Services, Box 25286, Federal Center, Denver, CO 80225 (telephone: 1-888-ASK-USGS or 303-202-4700; fax: 303-202-4693). When ordering, please use the open-file number and full title. Prices for black-and-white copies of reports are indicated. Prices for duplicate slides and color photographs can be obtained on request.

Domestic orders.—Payment (check, money order, VISA, MasterCard, American Express, Discover Card, or Government account) must accompany order. Please include a $5.00 handling fee. Make all drafts payable to the Department of the Interior—USGS. **Do not send cash.** Delivery will be provided by a Government-selected courier. If you request a specific courier service, please provide your courier account number.

International orders.—Payment for orders shipped outside the United States must be made by VISA, MasterCard, American Express, Discover Card, or international money order. All international orders must be prepaid. International customers must designate a preferred carrier (FedEx, DHL, or UPS) and provide the carrier account number and telephone number for shipping. Actual shipping costs plus a $5.00 handling charge for each order will be billed to the customer.

OF 97-0384. CALIFORNIA, NEVADA. Selected hydrologic features of the Lake Tahoe basin, California and Nevada, by T. G. Rowe and J. C. Stone. 1 over-size sheet. (NC, Da, M.) $5.

OF 00-0132. LOUISIANA. Subsidence and sea-level rise in Southeast Louisiana; implications for coastal management and restoration, by J. L. Kindinger. 2 p. (NC, Da, M.) $5.

OF 00-0341. Joint Israeli-Palestinian gravity survey in the Dead Sea Rift valley, by M. Rybakov, R. El-Kelani and U. S. ten Brink. 9 p. (NC.) $5.

OF 01-0232. NEW YORK. Ground-water age dating in community wells in Oswego County, New York, by S. C. Komar. Prepared in cooperation with the Oswego Department of Health. 16 p. (NC, Da, M.) $6.50.

OF 01-0385. NEW YORK. Characterization of fractures and flow zones in a contaminated shale at the Watervliet Arsenal, Albany County, New York, by J. H. Williams and F. L. Paillet. 25 p. (NC, Da, M.) $24.

OF 01-0472. COLORADO. $^{40}Ar/^{39}Ar$ age-spectrum and laser fusion data for volcanic rocks in west central Colorado, by M. J. Kunk, J. A. Winick and J. O. Stanley. 94 p. (NC, Da, M; Vicki J. Cowart, Colorado Geol. Surv., 1313 Sherman St., Room 715, Denver, CO 80203-2277; Chief, Geotechnical Services Branch, Office of the State Engineer, 1313 Sherman St., Room 818, Denver, CO 80203-2277.) $23.50. Available on the web at http://pubs.usgs.gov/of/2001/ofr-01-472/

OF 02-0089. U.S. Geological Survey artificial recharge workshop proceedings, April 2-4, 2002, Sacramento, California, edited by G. R. Aiken and E. L. Kuniansky. 88 p. (NC, Da, M.) Available on the web at http://water.usgs.gov/ogw/pubs/ofr0289/index.htm

A historical overview of hydrologic studies of artificial recharge in the U. S. Geological Survey, by E. P. Weeks. p. 5-12.

The role of unsaturated flow in artificial recharge projects, by A. L. Flint. p. 13-16.

The role of saturated flow in artificial recharge projects, by S. P. Phillips. p. 17-20.

Organic matter in ground water, by George Aiken. p. 21-23.

Processes controlling attenuation of dissolved organic matter in the subsurface, by J. A. Leenheer. p. 24-26.

Fate of disinfection by-products in the subsurface, by Colleen Rostad. p. 27-30.

Impact of organic contaminants on the evolution of aquifer geochemistry, by I. M. Cozzarelli. p. 31-33.

MASSACHUSETTS. Long term fate of organic micropollutants in the subsurface environment, Cape Cod, Massachusetts; from field surveys to experimentation, by L. B. Barber. p. 34-37.

SOUTH CAROLINA. Geochemical modeling of an aquifer storage recovery experiment, Charleston, South Carolina, by D. L. Parkhurst and M. D. Petkewich. p. 38-41.

Transport and fate of water-quality indicators after 40 years of artificial recharge with treated municipal wastewater to the central ground-water basin in Los Angeles County, by R. A. Schroeder and Robert Anders. p. 42-46.

FLORIDA. Mobilization of arsenic and other trace elements during aquifer storage and recovery, Southwest Florida, by J. D. Arthur, A. A. Dabous and J. B. Cowart. p. 47-50.

Using chemical and isotopic tracers to assess hydrogeologic processes and properties in aquifers intended for injection and recovery of imported water, by John Izbicki. p. 51-52.

Feasibility of regional-scale aquifer storage and recovery (ASR); scientific uncertainties, by C. R. Goodwin. p. 53.

Why do bacteria colonize aquifer surfaces? Geochemical and nutrient controls of bacterial colonization of silicate surfaces, by J. R. Rogers. p. 54-57.

Fate and transport of bacterial, viral, and protozoan pathogens during ASR operations; what microorganisms do we need to worry about and why?, by David Metge. p. 58-59.

Detection of microbial indicators and human microbial pathogens in artificial recharge studies, by D. W. Griffin. p. 60.

Microbial strategies for degradation of organic contaminants in karst, by T. D. Byl, G. E. Hileman, S. D. Williams, D. W. Metge and R. W. Harvey. p. 61-62.

Microbial redox cycling of arsenic oxyanions in anoxic environments, by R. S. Oremland. p. 63-65.

NEW YORK. Planning for the future of New York City's water supply system using artificial recharge in the Coastal Plain aquifers; a cooperative program between the USGS and the New York City Department of Environmental Protection, by W. A. Yulinsky, Paul Misut and D. K. Cohen. p. 66.

CALIFORNIA. Correlations between various water-quality indicators of recharged recycled water in production wells in Los Angeles County, California, by Robert Anders and R. A. Schroeder. p. 67.

Attenuation rates for PRD-1 and MS2 during recharge with artificial recharge with recycled water at a research basin in Los Angeles County, by Robert Anders, W. A. Yanko, R. A. Schroeder and J. L. Jackson. p. 68.

CALIFORNIA. Using environmental tracers to determine long-term effects of recharging recycled water in the central groundwater basin, Los Angeles County, California, by Robert Anders and R. A. Schroeder. p. 69.

CALIFORNIA. Heat as a tracer for examining enhanced recharge processes along the Russian River, CA, by J. E. Constantz. p. 70-71.

CALIFORNIA. Nitrate contamination and incorporation of excess air associated with artificial recharge in a desert basin, Yucca Valley, California, by J. N. Densmore and J. K. Bohlke. p. 72-73.

CALIFORNIA. Processes affecting the trihalomethane concentrations associated with the injection, storage, and recovery tests at Lancaster, Antelope Valley, California, by M. S. Fram, Roger Fujii, B. A. Bergamaschi, K. D. Goodwin and J. F. Clark. p. 74-75.

Permeability reduction caused by trapped gas; field-scale observations and quantification with a dissolved-gas tracer during a ponded infiltration experiment, by V. M. Heilweil and D. K. Solomon. p. 76-77.

CALIFORNIA. Artificial recharge through a thick, heterogeneous unsaturated zone near an intermittent stream in the western part of the Mojave Desert, California, by J. A. Izbicki and C. L. Stamos. p. 78-79.

FLORIDA. Simulation of the effects of reclaimed-water application in West Orange and Southeast Lake counties, Florida, by A. M. O'Reilly. p. 80-81.

IDAHO. Flow system analysis using a surface-applied tracer at the Idaho National Engineering and Environmental Laboratory, Idaho, by K. S. Perkins, J. R. Nimmo, P. A. Rose, J. P. Rousseau, B. R. Orr, B. V. Twining and S. R. Anderson. p. 82-83.

SOUTH CAROLINA. Aquifer storage and recovery in the Santee Limestone/Black Mingo Aquifer, Charleston, South Carolina, 1993-2001, by M. D. Petkewich, K. J. Conlon, J. E. Mirecki and B. G. Campbell. p. 84-85.

FLORIDA. Review and hydrogeology of aquifer storage and recovery sites in southern Florida, by R. S. Reese. p. 86.

Technical considerations for a large network of ASR wells in the Comprehensive Everglades Restoration Program, by R. A. Renken, M. W. Fies and S. B. Komlos. p. 87.

KANSAS. Effects of artificial recharge on water quality in the Equus Beds Aquifer, south-central Kansas, by A. C. Ziegler and H. C. Ross. p. 88.

OF 02-0093. TEXAS. Volatile organic compound and pesticide data in public water-supply reservoirs and wells, Texas, 1999-2001, by B. J. Mahler, M. O. Gary, M. G. Canova, E. W. Strom, Lynne Fahlquist and M. E. Dorsey. Prepared in cooperation with the Texas Natural Resource Conservation Commission. 105 p. (NC, Da, M.) $27.

OF 02-0104. NEW YORK. Mussel community composition in relation to macrohabitat, water quality, and impoundments in the Neversink River, New York, by B. P. Baldigo, G. E. Schuler and Karen Riva-Murray. Prepared in cooperation with the Town of Thompson. 26 p. (NC, Da, M.) $8.

OF 02-0134. TEXAS. Water-level altitudes 2002 and water-level changes in the Chicot, Evangeline, and Jasper aquifers and compaction 1973-2001 in the Chicot and Evangeline aquifers, Houston-Galveston region, Texas, by L. S. Coplin and Jennifer Lanning-Rush. Prepared in cooperation with the Harris-Galveston Subsidence District; City of Houston; Fort Bend Subsidence District. 15 over-size sheets. (NC, Da, M.) Available on the web at http://water.usgs.gov/pubs/of/ofr02-134/

OF 02-0137. TEXAS. Water-level altitudes in the Jasper Aquifer, greater Houston area, Texas, January-February 2001, by L. S. Coplin and Jennifer Lanning-Rush. Prepared in cooperation with the Harris-Galveston Coastal Subsidence District. 2 p. (NC, Da, M.) Available on the web at http://water.usgs.gov/pubs/of/ofr02-137/

OF 02-0141. Data-quality measures for stakeholder-implemented watershed-monitoring programs, by A. I. Greve. 19 p. (NC, Da, M.) $10.50.

OF 02-0150. Revised protocols for sampling algal, invertebrate, and fish communities as part of the National Water-Quality Assessment Program, by S. R. Moulton, II, J. G. Kennen, R. M. Goldstein and J. A. Hambrook. 75 p. (NC, Da, M.) (Supersedes Open-File Reports 93-104, 93-406, and 93-409.) $28. Available on the web at http://water.usgs.gov/nawqa/protocols/OFR02-150/index.html

OF 02-0151. User's manual for computer program BASEPLOT, by C. L. Sanders. 66 p. (NC, Da, M.) $17.50.

OF 02-0185. IDAHO. Tritium in flow from selected springs that discharge to the Snake River, Twin Falls-Hagerman area, Idaho, 1994-99, by B. V. Twining. Prepared in cooperation with the U.S. Department of Energy. 12 p. (NC.) $5.

OF 02-0190. Occurrence of invertebrates at 38 stream sites in the Mississippi Embayment study unit, 1996-99, by B. J. Caskey, B. G. Justus and Humbert Zappia. One CD-ROM. (NC, Da, M.) $32.

This CD-ROM has been produced in accordance with the ISO 9660 Standard and is therefore capable of being read on any computing platform that has appropriate CD-ROM driver software installed.

OF 02-0202. KENTUCKY. The central Kentucky prototype; an object-oriented geologic map data model for the National Geologic Map Database, by D. R. Soller, Boyan Brodaric, J. T. Hastings, Ron Wahl and G. A. Weisenfluh. 38 p. (NC, Da, M; Pirtle Geol. Library, 100 Bowman Hall, Univ. of Kentucky, Lexington, KY 40506.) $20.50. Available on the web at http://pubs.usgs.gov/of2002/of02-202/

OF 02-0223. Analytical methods for chemical analysis of geologic and other materials, U. S. Geological Survey, edited by J. E. Taggart, Jr. (NC, Da, M.) Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223

A1. Rock sample preparation, by C. D. Taylor and P. M. Theodorakos. p. A1.1-A1.5. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/A1RxSampPrep_M.pdf

A2. Stream-sediment sample preparation, by T. R. Peacock, C. D. Taylor and P. M. Theodorakos. p. A2.1-A2.4. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/A2SedPrep_M.pdf

A3. Soil sample preparation, by T. R. Peacock. p. A3.1-A3.4. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/A3SoilPrep_M.pdf

B. Plant material preparation and determination of weight percent ash, by T. R. Peacock and J. G. Crock. p. B1-B4. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/B17PlantAsh_M.pdf

C. Dry moist samples to constant weight under ambient conditions, calculate % moisture, by S. A. Wilson and Matt Herron. p. C1-C3. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/C18QCMoist_M.pdf

D. Conductivity measured using a self contained digital meter, by P. M. Theodorakos. p. D1-D2. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/D28Cond_M.pdf

E. Determination of total alkalinity using a preset endpoint (pH 4.5) autotitration system, by P. M. Theodorakos. p. E1-E3. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/E04PresetEndpoint_M.pdf

F. The determination of twenty-seven elements in aqueous samples by inductively coupled plasma-atomic emission spectrometry, by P. H. Briggs. p. F1-F11. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/F0203ICPAES_M.pdf

G. The determination of forty elements in geological and botanical samples by inductively coupled plasma-atomic emission spectrometry, by P. H. Briggs. p. G1-G18. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/G01fortyelementICP-AESsolid_M.pdf

H. The determination of forty-four elements in aqueous samples by inductively coupled plasma-mass spectrometry, by P. J. Lamothe, A. L. Meier and S. A. Wilson. p. H1-H11. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/H21&23OFR99-151_M.pdf

I. The determination of forty-two elements in geological materials by inductively coupled plasma-mass spectrometry, by P. H. Briggs and A. L. Meier. p. I1-I14. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/I20NAWQAPlus_M.pdf

J. The determination of forty-two elements in geologic materials by inductively coupled plasma-mass spectrometry for NAWQA, by P. H. Briggs and A. L. Meier. p. J1-J14. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/J22NAWQAMethod_M.pdf

K. Rare earth elements by inductively coupled plasma-mass spectrometry, by A. L. Meier and Tara Slowik. p. K1-K8. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/K19NewREE_M.pdf

L. Arsenic and selenium by flow injection or continuous flow-hydride generation-atomic absorption spectrophotometry, by P. L. Hageman, Z. A. Brown and Eric Welsch. p. L1-L7. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/L06AS24Se_M.pdf

M. Mercury in water, geologic, and plant materials by continuous flow-cold vapor-atomic absorption spectrometry, by Z. A. Brown, R. M. O'Leary, P. L. Hageman and J. G. Crock. p. M1-M9. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/M12HgCV_M.pdf

N. Mercury in water by flow injection-cold vapor-atomic fluorescence spectrometry, by P. L. Hageman. p. N1-N5. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/N13HagemanMercury_M.pdf

O. Mercury in plants and animal tissue by thermal decomposition-atomic spectrometry, by P. L. Hageman. p. O1-O5. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/O30TD-AAS_O.pdf

P. Flame photometric determination of K_2O, by T. L. Fries, Joe Christie, Sarah Pribble and D. F. Siems. p. P1-P5. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/P29K2O_M.pdf

Q. Total sulfur by combustion, by Z. A. Brown and K. J. Curry. p. Q1-Q4. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/Q25TotS_M.pdf

R. Total carbon by combustion, by Z. A. Brown and K. J. Curry. p. R1-R4. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/R10TotalCarbon_M.pdf

S. Carbonate carbon by coulometric titration, by Z. A. Brown, Clara Papp, Elaine Brandt and Phillip Aruscavage. p. S1-S6. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/S08CarbonateCarbon_S.pdf

T. Major element analysis by wavelength dispersive X-ray fluorescence spectrometry, by J. E. Taggart, Jr. and D. F. Siems. p. T1-T9. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/T16WDXRF_M.pdf

U. The determination of 30 elements in geological materials by energy dispersion X-ray fluorescence spectrometry, by D. F. Siems. p. U1-U11. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/U27edsfinal_U.pdf

V. Fluoride, chloride, nitrate and sulfate in aqueous solution utilizing autosuppression chemically suppressed on ion chromatography, by P. M. Theodorakos. p. V1-V7. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/V05ICmethod_M.pdf

W. Colorimetric determination of ferrous iron, Fe(II), in natural water, wastewater, and seawater, by P. M. Theodorakos. p. W1-W2. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/W11Fe(II)Hach_M.pdf

X. Instrumental neutron activation by long count, by J. R. Budahn and G. A. Wandless. p. X1-X13. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/X14INAALong_M.pdf

Y. Instrumental neutron activation by abbreviated count, by J. R. Budahn and G. A. Wandless. p. Y1-Y9. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/Y15INAA-SHORT_M.pdf

Z. Uranium and thorium by delayed neutron counting, by R. J. Knight and D. M. McKown. p. Z1-Z5. Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-0223/Z26UThDN_M.pdf

OF 02-0229. WASHINGTON. Southwest Washington coastal erosion workshop report 2000, edited by Guy Gelfenbaum and G. M. Kaminsky. Prepared in cooperation with the Washington State Department of Ecology. 308 p. (NC, Da, M; Washington DNR/Geol. & Earth Resources Library, 1111 Washington St., S.E., Olympia, WA 98501.) $90. Available on the web at http://geopubs.wr.usgs.gov/open-file/of02-229/

WASHINGTON. Motivation, goals, and status of the Southwest Washington coastal erosion study, by Guy Gelfenbaum and G. M. Kaminsky. p. 17-23.

Geophysical survey of the John Day Reservoir; Columbia River, by David Twichell, Michael Parsley, Guy Gelfenbaum, VeeAnn Cross, Mindi Sheer, Ken Parolski and Laura Kerr. p. 25-28.

Warrenton borehole; sedimentation rates, by D. L. Baker. p. 29-31.

Preliminary results of the Columbia River estuary vibracoring study, by Sandy Vanderburgh, C. D. Peterson, D. L. Baker, David Qualman, Jeff Heeren, D. C. Percy and Rebecca Treat. p. 32-37.

Separating human and climate impacts on Columbia River hydrology and sediment transport, by D. A. Jay and P. K. Naik. p. 38-48.

Mouth of the Columbia River; trends in sediment management, by Rod Moritz. p. 49-52.

A review of Columbia River dredging; past practices and recent proposals, by G. M. Kaminsky. p. 53-60.

High resolution sediment dynamics in salt-wedge estuaries, by Philip Orton, Douglas Wilson, D. A. Jay and Annika Fain. p. 61-67.

Estimation of the Columbia River virgin flow, by P. K. Naik and D. A. Jay. p. 68-73.

WASHINGTON, OREGON. Correlation of shoreface retreat scarps, foredune ridges, and late-Holocene shoreline ages in the Columbia River littoral cell, Washington-Oregon, USA, by C. D. Peterson, Harry Jol, D. C. Percy, James Phipps, Frank Reckendorf, Sandy Vanderburgh and Lorraine Woxell. p. 75-78.

Data integration and modeling, by D. C. Percy, P. J. Cowell and C. D. Peterson. p. 79-82.

Shoreface sand supply for barrier progradation, by P. J. Cowell, M. J. F. Stive, G. M. Kaminsky and M. C. Buijsman. p. 83-98.

High resolution 2D and 3D ground penetrating radar datasets, by Harry Jol and G. M. Kaminsky. p. 99-104.

WASHINGTON. Exploring correlations between shoreline progradation and climate indices, Southwest Washington, by Laura Moore, Harry Jol and G. M. Kaminsky. p. 105-111.

Historical bathymetric and topographic change analysis; an overview, by M. C. Buijsman. p. 112-122.

Aggregating beach monitoring data to inform management scale predictive modelling, by Peter Ruggiero, G. M. Kaminsky, Guy Gelfenbaum, David Thompson and Etienne Kingsley. p. 123-136.

Assessing coastal susceptibility in the Columbia River littoral cell, by Brian Voigt and Peter Ruggiero. p. 137-141.

Predicting shoreline change at management scale, by G. M. Kaminsky, M. C. Buijsman and Peter Ruggiero. p. 142-153.

Historical shoreline change rates for the Columbia River littoral cell, by R. C. Daniels, D. C. McCandless and R. H. Huxford. p. 154-166.

Digitizing shorelines from aerial photography, by D. C. McCandless and R. C. Daniels. p. 167-177.

Bay Center Channel and Willapa navigation studies, by David Simpson. p. 179-181.

WASHINGTON. Linking equatorial SST and hydrodynamics off SW Washington, USA, by E. B. Hands. p. 182-186.

Evidence of large-scale, long-term cycles of beach deposition and erosion, North Willapa Bay, by R. A. Morton, Noreen Purcell, David Qualman and Jeff Heeren. p. 187-188.

Recent sea-level history in the CRLC as detected from tide gauge records, by A. E. Gibbs and H. F. Ryan. p. 189-195.

Validation of numerical models; Grays Harbor, Washington, by M. A. Cialone, N. C. Kraus, H. T. Arden, R. M. Parry and D. B. Herrick. p. 196-200.

The relation between jetty construction/rehabilitation and shoreline change at the entrance to Grays Harbor, by M. C. Buijsman. p. 201-208.

WASHINGTON. Latest Holocene evolution of the SW Washington shelf and coastal system, by David Twichell, VeeAnn Cross, C. D. Peterson, D. C. Percy, Sandy Vanderburgh, James Phipps and April Herb. p. 210-216.

WASHINGTON. Results from a multibeam sonar survey on the inner shelf off Grays Harbor; relevance to the Southwest Washington coastal erosion study, by V. L. Ferrini and R. D. Flood. p. 217-223.

The wave climate of the eastern North Pacific; long-term trends and an El Nino/La Nina dependence, by J. C. Allan and P. D. Komar. p. 224-227.

WASHINGTON. SWAN model calibration and validation on the Southwest Washington inner continental shelf, by Meg Palmsten. p. 228-235.

Sediment transport during the 1999 Grays Harbor wave refraction experiment, by C. R. Sherwood. p. 236.

Models, data, assumptions, and what we know for sure, by Peter Howd. p. 237.

Feasibility of a submerged spur to control navigation channel shoaling at North Jetty, Grays Harbor; evaluation of North Jetty sediment transport conditions, by P. D. Osborne and Vladimir Shepsis. p. 238-242.

An integrated contemporary sediment budget for the Columbia River littoral cell, by G. M. Kaminsky, M. C. Buijsman, Peter Ruggiero and Guy Gelfenbaum. p. 244-252.

Regional sediment management in Columbia River littoral cell; problems and opportunities, by G. M. Kaminsky. p. 253-259.

But what does it all mean? Distilling the science for use on a local management scale; observations, recommendations, and examples of information sharing tools, by C. J. Stewart. p. 260-267.

Coming to grips with large-scale coastal systems; thoughts about the Columbia River littoral cell, by P. D. Komar. p. 268-277.

Columbia River cell coastal erosion project; limits to knowledge, by P. J. Cowell. p. 278-296.

OF 02-0230. Map and database of Quaternary faults and lineaments in Brazil, by Allaoua Saadi, M. N. Machette, K. M. Haller, R. L. Dart, Lee-Ann Bradley and A. M. P. D. de Souza. 58 p., 1 over-size sheet. (NC, Da, M.) Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-230

OF 02-0265. ARIZONA. Hydrogeologic data for the Coconino Plateau and adjacent areas, Coconino and Yavapai counties, Arizona,

by D. J. Bills and M. E. Flynn. Prepared in cooperation with the City of Williams. 13 p. (NC, Da, M.) Available on the web at http://az.water.usgs.gov/pubs/02-265intro.html

OF 02-0284. NEW YORK, PENNSYLVANIA. Hydrogeology of the Waverly-Sayre area in Tioga and Chemung counties, New York and Bradford County, Pennsylvania, by R. J. Reynolds. Prepared in cooperation with the New York State Department of Environmental Conservation. One CD-ROM. (NC, Da, M.) $32. Available on the web at http://ny.water.usgs.gov/pubs/of/of02284/

This CD-ROM has been produced in accordance with the ISO 9660 Standard and is therefore capable of being read on any computing platform that has appropriate CD-ROM driver software installed.

OF 02-0286. Daily values flow comparison and estimates using program HYCOMP, version 1.0, by C. L. Sanders. 52 p. (NC, Da, M.) $14.

OF 02-0287. Barrier island elevations relevant to potential storm impacts; 1, Techniques, by N. A. Elko, A. H. Sallenger, Jr., Kristy Guy, H. F. Stockdon and K. L. M. Morgan. 6 p. (NC, Da, M.) $10.

OF 02-0288. Barrier island elevations relevant to potential storm impacts; 2, South Atlantic, by N. A. Elko, A. H. Sallenger, Jr., Kristy Guy and K. L. M. Morgan. 4 p. (NC, Da, M.) $7.

OF 02-0293. User guide for the drawdown-limited, multi-node well (MNW) package for the U. S. Geological Survey's modular three-dimensional finite-difference ground-water flow model, versions MODFLOW-96 and MODFLOW-2000, by K. J. Halford and R. T. Hanson. Prepared in cooperation with the Santa Clara Valley Water District. 39 p. (NC, Da, M; USGS, WRD, Placer Hall, Suite 2012, 6000 J St., Sacramento, CA 95819-6129.) $16.50. Available on the web at http://water.usgs.gov/pubs/of/2002/ofr02293/text.html

OF 02-0300. WISCONSIN. Water-resources investigations in Wisconsin, 2002, compiled by K. A. Hueschen, S. Z. Jones and J. A. Fuller. 184 p. (NC, Da, M.) $124.

OF 02-0306-A. Municipal GIS database of Guatemala; Volume 1, Antigua, Guatemala, by P. G. Chirico, P. P. Hearn, Ovidio Rivero Bartolomei and S. D. Tanner. One disc. (NC, Da, M.) CD-R disc-on-demand. $45.

This disc has been produced in accordance with the ISO 9660 Standard and is therefore capable of being read on any computing platform that has appropriate CD-ROM driver software installed.

OF 02-0306-B. Municipal GIS database of Guatemala; Volume 2, Asuncion Mita, Guatemala, by P. G. Chirico, P. P. Hearn, Ovidio Rivero Bartolomei and S. D. Tanner. One disc. (NC, Da, M.) CD-R disc-on-demand. $45.

This disc has been produced in accordance with the ISO 9660 Standard and is therefore capable of being read on any computing platform that has appropriate CD-ROM driver software installed.

OF 02-0306-C. Municipal GIS database of Guatemala; Volume 3; Chimaltenango, Guatemala, by P. G. Chirico, P. P. Hearn, Ovidio Rivero Bartolomei and S. D. Tanner. One disc. (NC, Da, M.) CD-R disc-on-demand. $45.

This disc has been produced in accordance with the ISO 9660 Standard and is therefore capable of being read on any computing platform that has appropriate CD-ROM driver software installed.

OF 02-0306-D. Municipal GIS database of Guatemala; Volume 4; Concepcion Minas, Guatemala, by P. G. Chirico, P. P. Hearn, Ovidio Rivero Bartolomei and S. D. Tanner. One disc. (NC, Da, M.) CD-R disc-on-demand. $45.

This disc has been produced in accordance with the ISO 9660 Standard and is therefore capable of being read on any computing platform that has appropriate CD-ROM driver software installed.

OF 02-0306-E. Municipal GIS database of Guatemala; Volume 5; Escuintla, Guatemala, by P. G. Chirico, P. P. Hearn, Ovidio Rivero Bartolomei and S. D. Tanner. One disc. (NC, Da, M.) CD-R disc-on-demand. $45.

This disc has been produced in accordance with the ISO 9660 Standard and is therefore capable of being read on an computing platform that has appropriate CD-ROM driver software installed.

OF 02-0306-F. Municipal GIS database of Guatemala; Volume 6, Guatemala City, Guatemala, by P. G. Chirico, P. P. Hearn, Ovidio Rivero Bartolomei and S. D. Tanner. One disc. (NC, Da, M.) CD-R disc-on-demand. $45.

This disc has been produced in accordance with the ISO 9660 Standard and is therefore capable of being read on any computing platform that has appropriate CD-ROM driver software installed.

OF 02-0306-G. Municipal GIS database of Guatemala; Volume 7, Los Amates, Guatemala, by P. G. Chirico, P. P. Hearn, Ovidio Rivero Bartolomei and S. D. Tanner. One disc. (NC, Da, M.) CD-R disc-on-demand. $45.

This disc has been produced in accordance with the ISO 9660 Standard and is therefore capable of being read on any computing platform that has appropriate CD-ROM driver software installed.

OF 02-0306-H. Municipal GIS database of Guatemala; Volume 8, Mazatenango, Guatemala, by P. G. Chirico, P. P. Hearn, Ovidio Rivero Bartolomei and S. D. Tanner. One disc. (NC, Da, M.) CD-R disc-on-demand. $45.

This disc has been produced in accordance with the ISO 9660 Standard and is therefore capable of being read on any computing platform that has appropriate CD-ROM driver software installed.

OF 02-0306-I. Municipal GIS database of Guatemala; Volume 9, Morales, Guatemala, by P. G. Chirico, P. P. Hearn, Ovidio Rivero Bartolomei and S. D. Tanner. One disc. (NC, Da, M.) CD-R disc-on-demand. $45.

This disc has been produced in accordance with the ISO 9660 Standard and is therefore capable of being read on any computing platform that has appropriate CD-ROM driver software installed.

OF 02-0306-J. Municipal GIS database of Guatemala; Volume 10, Puerto Barrios, Guatemala, by P. G. Chirico, P. P. Hearn, Ovidio

Rivero Bartolomei and S. D. Tanner. One disc. (NC, Da, M.) CD-R disc-on-demand. $45.

This disc has been produced in accordance with the ISO 9660 Standard and is therefore capable of being read on any computing platform that has appropriate CD-ROM driver software installed.

OF 02-0306-K. Municipal GIS database of Guatemala; Volume 11, Retalhuleu, Guatemala, by P. G. Chirico, P. P. Hearn, Ovidio Rivero Bartolomei and S. D. Tanner. One disc. (NC, Da, M.) CD-R disc-on-demand. $45.

This disc has been produced in accordance with the ISO 9660 Standard and is therefore capable of being read on any computing platform that has appropriate CD-ROM driver software installed.

OF 02-0306-L. Municipal GIS database of Guatemala; Volume 12, Zacapa, Guatemala, by P. G. Chirico, P. T. Hearn, Ovidio Rivero Bartolomei and S. D. Tanner. One disc. (NC, Da, M.) CD-R disc-on-demand. $45.

This disc has been produced in accordance with the ISO 9660 Standard and is therefore capable of being read on any computing platform that has appropriate CD-ROM driver software installed.

OF 02-0307-A. Municipal GIS database of El Salvador; Volume 1, Berlin, El Salvador, by P. G. Chirico, P. P. Hearn, Ovidio Rivero Bartolomei and S. D. Tanner. One disc. (NC, Da, M.) CD-R disc on demand. $45.

This disc has been produced in accordance with the ISO 9660 Standard and is therefore capable of being read on any computing platform that has appropriate CD-ROM driver software installed.

OF 02-0307-B. Municipal GIS database of El Salvador; Volume 2, Jiquilisco, El Salvador, by P. G. Chirico, P. P. Hearn, Ovidio Rivero Bartolomei and S. D. Tanner. One disc. (NC, Da, M.) CD-R disc-on-demand. $45.

This disc has been produced in accordance with the ISO 9660 Standard and is therefore capable of being read on any computing platform that has appropriate CD-ROM driver software installed.

OF 02-0307-C. Municipal GIS database of El Salvador; Volume 3, La Palma, El Salvador, by P. G. Chirico, P. P. Hearn, Ovidio Rivero Bartolomei and S. D. Tanner. One disc. (NC, Da, M.) CD-R disc-on-demand. $45.

This disc has been produced in accordance with the ISO 9660 Standard and is therefore capable of being read on any computing platform that has appropriate CD-ROM driver software installed.

OF 02-0307-D. Municipal GIS data base of El Salvador; Volume 4, San Salvador, El Salvador, by P. G. Chirico, P. P. Hearn, Ovidio Rivero Bartolomei and S. D. Tanner. One disc. (NC, Da, M.) CD-R disc-on-demand. $45.

This disc has been produced in accordance with the ISO 9660 Standard and is therefore capable of being read on any computing platform that has appropriate CD-ROM driver software installed.

OF 02-0328. The Cascadia subduction zone and related subduction systems; seismic structure, intraslab earthquakes and processes, and earthquake hazards, edited by S. H. Kirby, Kelin Wang and Susan Dunlop. One CD-ROM. (NC, Da, M; California Dep. of Conservation, Div. of Mines and Geol., Mail Stop 14-34, Library, 801 K St., Sacramento, CA 95814-3532; 185 Berry St., Suite 210, San Francisco, CA 94107-1728; and State Office Bldg., 107 South Broadway, Los Angeles, CA 90012; Washington DNR/Geol. and Earth Resources Library, 1111 Washington St. S.E., Olympia, WA 98501; Oregon Dep of Geol. and Mineral Industries, Suite 965, 800 NE Oregon St. #28, Portland, OR 97232.) $32. Available on the web at
http://geopubs.wr.usgs.gov/open-file/of02-328/

This CD-ROM has been produced in accordance with the ISO 9660 Standard and is therefore capable of being read on any computing platform that has appropriate CD-ROM driver software installed.

Workshop consensus findings and recommendations, by S. H. Kirby, Kelin Wang, G. C. Rogers, R. S. Crosson, A. M. Trehu, Chris Goldfinger and T. M. Brocher. p. 1-3.

Introduction to a global systems approach to Cascadia slab processes and associated earthquake hazards, by S. H. Kirby and Kelin Wang. p. 5-9.

The Juan de Fuca Plate and slab; isochron structure and Cenozoic plate motions, by D. S. Wilson. p. 9-12.

Offshore structure of the Juan de Fuca Plate from marine seismic and sonar studies, by Chris Goldfinger, R. P. Dziak and Chris Fox. p. 13-16.

Cascadia microplate models and within-slab earthquakes, by R. E. Wells, R. J. Blakely and C. S. Weaver. p. 17-23.

Geometry of the subducting Juan de Fuca Plate; new constraints from SHIPS98, by A. M. Trehu, T. M. Brocher, K. C. Creager, M. A. Fisher, L. A. Preston and George Spence. p. 25-32.

Three-dimensional structure of the Cascadia forearc region from SHIPS active experiment and earthquake observations; tomographic inversion provides a high-resolution view into the core of the Cascadia forearc complex, by R. S. Crosson, N. P. Symons, K. C. Creager, L. A. Preston, T. Van Wagoner, T. M. Brocher and M. A. Fisher. p. 33.

WASHINGTON. Velocity structure of western Washington from local earthquake tomography, by Antonio Villaseñor, D. Stanley and Harley Benz. p. 35-36.

Three-dimensional reflection image of the subduction Juan de Fuca Plate, by K. C. Creager, L. A. Preston, R. L. Crosson, T. Van Wagoner and A. M. Trehu. p. 37-41.

Modeling post-critical Moho reflections from intraslab earthquakes in the Cascadia subduction zone, by Jeff Shragge, M. G. Bostock and G. C. Rogers. p. 43-45.

Geometry and membrane deformation rate of the subducting Cascadia slab, by Ling-Yun Chiao and K. C. Creager. p. 47-54.

Crustal structure of the northern Juan de Fuca Plate and Cascadia subduction zone; new results, old data, by R. M. Clowes. p. 55-58.

Seismic reflection imaging of the Cascadia plate boundary offshore Vancouver Island, by Andrew Calvert. p. 59-62.

OREGON. An image of the Cascadia subduction zone across central Oregon, by Stephane Rondenay and M. G. Bostock. p. 63.

Intraslab earthquakes beneath Georgia Strait/Puget Sound, by G. C. Rogers and R. S. Crosson. p. 65-67.

Precise relocations of slab seismicity in the northern Cascadia subduction zone, by J. F. Cassidy and Felix Waldhauser. p. 69-73.

Large earthquakes under our feet and deep beneath the Puget Lowland and Georgia Strait; how often do they occur, how big can they get and what are their likely effects?, by S. H. Kirby, K. C. Creager and L. A. Preston. p. 75.

In-slab seismicity at the north end of Cascadia, by G. C. Rogers, A. L. Bird, J. F. Cassidy, T. L. Mulder, M. K. Bolton and J. P. Ristau. p. 77.

Warm-slab subduction as a global process, by S. H. Kirby, E. R. Engdahl and Antonio Villaseñor. p. 79-80.

The structure and intraslab seismicity of the Philippine Sea Plate in Southwest Japan, by Yoshiyuki Kaneda and P. R. Cummins. p. 81-85.

Intraslab earthquakes in the subducting ocean plates below Mexico, by S. K. Singh, Vladimir Kostoglodov and J. F. Pacheco. p. 87-91.

Seismicity and seismotectonics of Central America with emphasis on intraslab seismic activity, by Marino Protti. p. 93-97.

Large, intermediate-depth earthquakes in Southwest Japan, by P. R. Cummins, Yoshiyuki Kaneda and Takane Hori. p. 99-101.

Large ($M_w \geq 5.5$) intraplate slab earthquakes (1928-2000) of the Prince William Sound region, Alaska, by Diane Doser, Monique Velasquez, Wesley Brown and Annette Veilleux. p. 103-106.

The radiated seismic energy and apparent stress of interplate and intraslab earthquakes at subduction-zone environments; implications for seismic hazard estimation, by G. L. Choy, J. L. Boatwright and S. H. Kirby. p. 107-114.

Earthquakes having high apparent stress in oceanic intraplate lithosphere, by Art McGarr and G. L. Choy. p. 115-116.

Energy-to-moment ratios for damaging intraslab earthquakes; preliminary results on a few case studies, by E. A. Okal and S. H. Kirby. p. 117-121.

Thermal structure and metamorphism of subducting oceanic crust; insight into Cascadia intraslab earthquakes, by S. M. Peacock, Kelin Wang and A. M. McMahon. p. 123-126.

Heat sources in subduction zones; implications for slab seismicity and arc volcanism, by J. R. McKenna and D. D. Blackwell. p. 127-131.

Theoretical mineralogy, density, seismic wavespeeds and H_2O content of the Cascadia subduction zone, with implications for intermediate-depth seismicity and earthquake hazard, by B. R. Hacker, G. A. Abers and S. M. Peacock. p. 133-137.

Slab deformation at the edge of subduction zones; an example from Cascadia, by U. S. ten Brink. p. 139-141.

Stresses in the Juan de Fuca Plate and the role of mantle resistance to horizontal slab motion, by Kelin Wang, Jiangheng He, E. E. Davis and Chris Goldfinger. p. 143.

Phase changes, fluids and the co-location of the deep and shallow seismicity beneath Puget Sound and southern Georgia Strait, by G. C. Rogers. p. 145.

The role of phase changes in the development of forearc basins, by G. C. Rogers. p. 147.

Knowledge of in-slab earthquakes needed to improve seismic hazard estimates for southwestern British Columbia, by John Adams and Stephen Halchuk. p. 149-154.

Empirical ground motion relations for subduction-zone earthquakes, by G. M. Atkinson and D. M. Boore. p. 155-157.

Deep intraslab earthquakes and how they contribute to seismic hazard in the Pacific northwestern U.S., by M. D. Petersen and A. D. Frankel. p. 159-162.

The proposed NEPTUNE seafloor observatory on the Juan de Fuca Plate; applications to studies of intraplate earthquakes, by W. S. D. Wilcock, Kelin Wang, R. D. Hyndman, A. M. Trehu and K. C. Creager. p. 163-167.

POLARIS; new opportunities in Cascadia, by J. F. Cassidy, M. G. Bostock, G. M. Atkinson, D. W. Eaton, Isa Asudeh, D. B. Snyder, John Adams, I. J. Ferguson, A. G. Jones and C. J. Thomson. p. 169.

OF 02-0335. Economic drivers of mineral supply, by L. A. Wagner, D. E. Sullivan and J. L. Sznopek. 274 p. (NC, Da, M.) Available on the web at http://pubs.usgs.gov/of/2002/of02-335/

OF 02-0336. MONTANA, IDAHO, WASHINGTON. Selected trace-element and synthetic-organic compound data for streambed sediment from the Clark Fork-Pend Oreille and Spokane River basins, Montana, Idaho, and Washington, 1998, by M. A. Beckwith. National Water-Quality Assessment Program. 26 p. (NC, Da, M.) $7.50.

OF 02-0337. Method of analysis and quality-assurance practices by the U. S. Geological Survey Organic Geochemistry Research Group; determination of geosmin and methylisoborneol in water using solid-phase microextraction and gas chromatography/mass spectrometry, by L. R. Zimmerman, A. C. Ziegler and E. M. Thurman. 12 p. (NC, Da, M.) $5.

OF 02-0343. UTAH, COLORADO. Hydrologic, sediment, and biological data associated with irrigation drainage in the middle Green River basin, Utah and Colorado, water years 1991-2000, by R. C. Rowland, D. V. Allen, D. W. Stephens, J. W. Yahnke, N. L. Darnall and Bruce Waddell. National Irrigation Drainage Water-Quality Program. 112 p. (NC, Da, M.) $29.

OF 02-0356. WISCONSIN. Water use in Wisconsin, 2000, by B. R. Ellefson, C. D. Mueller and C. A. Buchwald. 1 over-size sheet. (NC, Da, M.) $9.

OF 02-0365. ARIZONA. Spatial digital database of the geologic map of Catalina Core Complex and San Pedro Trough, Pima, Pinal, Gila, Graham, and Cochise counties, Arizona, by W. R.

Dickinson, D. M. Hirschberg, G. S. Pitts and K. S. Bolm. 25 p. (NC, Da, M; Arizona Geol. Surv., 416 West Congress St. #100, Tucson, AZ 85701-1315; USGS, Library, Suite 355, 520 North Park Ave., Tucson, AZ 85719.) Available on the web at http://geopubs.wr.usgs.gov/open-file/of02-365

OF 02-0369. CALIFORNIA. Santa Clara Valley water district multi-aquifer monitoring-well site, Coyote Creek Outdoor Classroom, San Jose, California, by R. T. Hanson, M. W. Newhouse, C. M. Wentworth, C. F. Williams, T. E. Noce and M. J. Bennett. 4 p. (NC, Da, M.) Available on the web at http://water.usgs.gov/pubs/of/ofr02369/

OF 02-0377. TEXAS. Water-level changes 1977-87, 1987-95, and 1995-2000 in the Chicot and Evangeline aquifers, Houston-Galveston region, Texas, by M. C. Kasmarek and Jennifer Lanning-Rush. Prepared in cooperation with Harris-Galveston Coastal Subsidence District and the Fort-Bend Subsidence District. 5 over-size sheets. (NC, Da, M.) Available on the web at http://water.usgs.gov/pubs/of/ofr02-377/

OF 02-0383. NEW JERSEY. Methods for quality-assurance review of water-quality data in New Jersey, by G. A. Brown, E. A. Pustay and Jacob Gibs. Prepared in cooperation with the New Jersey Department of Environmental Protection. 68 p. (NC, Da, M.) $17. Available on the web at http://nj.usgs.gov/publications/OFR/02-383/

OF 02-0402. GEORGIA. Data on surface-water, streambed-interstitial water, and bed-sediment quality for selected locations in the small arms impact area of central Fort Gordon, Georgia, September 4-6, 2001, by Sheryln Priest, T. C. Stamey and S. J. Lawrence. Prepared in cooperation with the U.S. Department of the Army, Environmental and Natural Resources Management, Office of the U.S. Army Signal Center; Fort Gordon. 15 p. (NC, Da, M.) $5.

OF 02-0405. ALASKA. Palynological dating of some Upper Cretaceous to Eocene outcrop and well samples from the region extending from the easternmost part of the National Petroleum Reserve in Alaska to the western part of the Arctic National Wildlife Refuge, North Slope of Alaska, by N. O. Frederiksen, D. J. McIntyre and T. P. Sheehan. 37 p. (NC, Da, M, A.) $9.

OF 02-0406. CALIFORNIA. Geologic map of the Sawmill Mountain Quadrangle, Kern and Ventura counties, California, by K. S. Kellogg and D. P. Miggins. 16 p., 1 over-size sheet, scale 1:24,000 (1 inch = 2,000 feet). (NC, Da, M; California Dep. of Conservation, Div. of Mines and Geol., Mail Stop 14-34, Library, 801 K St., Sacramento, CA 95814-3532; 185 Berry St., Suite 210, San Francisco, CA 94107-1728; and State Office Bldg., 107 South Broadway, Los Angeles, CA 90012.) Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-406

OF 02-0413. COLORADO. Clay minerals of the Front Range; a field guide to the geology, history, and clay mineralogy of the Chieftain Mine, Dinosaur Ridge, Patch Mine, and other localities along the Front Range from Denver to Boulder, Colorado, by D. E. Kile. 79 p. (NC, Da, M.) $27.

OF 02-0416. MAINE. Hydrologic data collected in small watersheds on Mt. Desert Island, Maine, 1999-2000, by M. G. Nielsen, J. M. Caldwell, C. W. Culbertson and Michael Handley. 47 p. (NC, Da, M.) $12.50. Available on the web at http://me.water.usgs.gov/OFR02-416.pdf

OF 02-0424. TRIGRS; a Fortran program for transient rainfall infiltration and grid-based regional slope-stability analysis, by R. L. Baum, W. Z. Savage and J. W. Godt. 61 p. (NC, Da, M.) Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-424/

OF 02-0431. NEVADA, UTAH. Flood deposits of transported mill tailings in Nevada and Utah; evidence for tailings failures and implications for risk assessment, by J. T. Nash. One CD-ROM. (NC, Da, M; Nevada Bur. of Mines & Geol., Univ. of Nevada-Reno, Reno, NV 89557-0088; Utah Geol. Surv., 1594 West North Temple, Suite 3110, P.O. Box 146100, Salt Lake City, UT 84114-6100.) $32.

This CD-ROM has been produced in accordance with the ISO 9660 Standard and is therefore capable of being read on any computing platform that has appropriate CD-ROM driver software installed.

OF 02-0433. MASSACHUSETTS. Bedrock geology in the vicinity of the Leicester Well site, Paxton, Massachusetts, by G. J. Walsh. Prepared in cooperation with the Massachusetts Department of Environmental Protection and the Massachusetts Department of Environmental Management. 19 p. (NC, Da, M.) Available on the web at http://pubs.usgs.gov/of/2002/of02-433/

OF 02-0434. FLORIDA. Potentiometric surface of the upper Floridan Aquifer in the St. Johns River Water Management District and vicinity, Florida, May 2002, by S. L. Kinnaman and Leel Knowles, Jr. Prepared in cooperation with Saint Johns River Water Management District; South Florida Water Management District; Southwest Florida Water Management District. 1 over-size sheet. (NC, Da, M.) $7.50.

OF 02-0435. MAINE. Estimated quantity of water in fractured bedrock units on Mt. Desert Island, and estimated ground-water use, recharge, and dilution of nitrogen in septic waste in the Bar Harbor area, Maine, by M. G. Nielsen. Prepared in cooperation with the Town of Bar Harbor and the National Park Service. 45 p. (NC, Da, M.) $20. Available on the web at http://me.water.usgs.gov/OFR02-435.pdf

OF 02-0436. Methods of analysis by the U. S. Geological Survey Organic Geochemistry Research Group; determination of triazine and phenylurea herbicides and their degradation products in water using solid-phase extraction and liquid chromatography/mass spectrometry, by E. A. Lee, A. P. Strahan and E. M. Thurman. 19 p. (NC, Da, M.) $6.

OF 02-0440. SOUTH DAKOTA. Estimated use of water in South Dakota, 2002, by F. D. Amundson. Prepared in cooperation with the South Dakota Department of Environmental and Natural Resources. 17 p. (NC, Da, M.) $12.

OF 02-0454. Arsenic in New England; mineralogical and geochemical studies of sources and enrichment pathways, by R. A. Ayuso and N. K. Foley. (NC, Da, M.) Available on the web at http://pubs.usgs.gov/of/2002/of02-454/

Pb isotopes, arsenic sources and enrichment pathways linking sulfides from mines and unmineralized rocks to secondary iron oxides, coastal New England, by R. A. Ayuso, N. K. Foley, J. D. Ayotte, Ann Lyon, John Burns, R. G. Marvinney, A. S. Reeve and G. R. Robinson, Jr.

Mineralogical pathways for arsenic in weathering meta-shales; an analysis of regional and site studies in the Northern Appalachians, by N. K. Foley, R. A. Ayuso, J. D. Ayotte, Nicole West, Jeremy Dillingham, R. G. Marvinney, A. S. Reeve and G. R. Robinson, Jr.

OF 02-0455. User guide for the PULSE program, by A. T. Rutledge. 34 p. (NC, Da, M.) $9.50. Available on the web at http://water.usgs.gov/pubs/of/2002/ofr02-455/

OF 02-0459. Values and attitudes of National Wildlife Refuge managers and biologists; report to respondents, by A. A. Brinson and D. E. Benson. 19 p. (NC, Da, M.) $5.

OF 02-0460. HAWAII. Sulfur dioxide emission rates from Kilauea Volcano, Hawaii, an update; 1998-2001, by T. Elias and A. J. Sutton. 29 p. (NC, Da, M; USGS, Library, 2255 North Gemini Dr., Flagstaff, AZ 86001; USGS, Library, Hawaiian Volcano Observatory, P.O. Box 51, Hawaii National Park, HI 96718-0051.) Available on the web at http://geopubs.wr.usgs.gov/open-file/of02-460/

OF 02-0462. Methods of analysis by the U. S. Geological Survey National Water Quality Laboratory; a method supplement for the determination of fipronil and degradates in water by gas chromatography/mass spectrometry, by J. F. Madsen, M. W. Sandstrom and S. D. Zaugg. 11 p. (NC, Da, M.) $5.

OF 02-0465. A bibliography of terrain modeling (geomorphometry), the quantitative representation of topography; supplement 4.0, by R. J. Pike. 158 p. (NC, Da, M.) $29. Available on the web at http://geopubs.wr.usgs.gov/open-file/of02-465/

OF 02-0474. SOUTH DAKOTA. Reconnaissance-level assessment of water quality near Flandreau, South Dakota, by B. D. Schaap. Prepared in cooperation with the Flandreau Santee Sioux Tribe. 32 p. (NC, Da, M.) $12.50.

OF 02-0477. HAWAII. Drilling and construction data for the Waiohuli exploratory well (state well 6-4421-01), island of Maui, Hawaii, by S. B. Gingerich and D. R. Sherrod. Prepared in cooperation with the State of Hawaii, Department of Hawaiian Home Lands. 10 p. (NC, Da, M; USGS, WRD, 677 Ala Moana Blvd., Suite 415, Honolulu, HI 96813.) $5.

OF 02-0481. Results of the U.S. Geological Survey's analytical evaluation program for standard reference samples distributed in September 2002, by M. T. Woodworth and B. F. Connor. 108 p. (NC, Da, M.) $28. Available on the web at http://bqs.usgs.gov/srs/Report_Fall02.pdf

OF 02-0483. ALASKA. Map and digital database of sedimentary basins and indications of petroleum in the Central Alaska Province, by S. M. Troutman and R. G. Stanley. (NC, Da, M, A; Alaska Resource Library Information Services [ARLIS], 3150 "C" St., Suite 100, Anchorage, AK 99503; Alaska Dep. of Natural Resources, Div. of Geol. & Geophys. Surv., 794 University Ave., Suite 200, Fairbanks, AK 99709-3645.) Available on the web at http://geopubs.wr.usgs.gov/open-file/of02-483/

OF 02-0485. ARIZONA. Ground-water, surface-water, and water-chemistry data, Black Mesa area, northeastern Arizona; 2001-02, by B. E. Thomas. Prepared in cooperation with the Arizona Department of Water Resources; Bureau of Indian Affairs. 43 p. (NC, Da, M.) $12. Available on the web at http://az.water.usgs.gov/pubs/02-485intro.html

OF 02-0488. COLORADO. Water quality and aquatic toxicity data of 2002 spring thaw conditions in the upper Animas River watershed, Silverton, Colorado, by D. L. Fey, L. Wirt, J. M. Besser and W. G. Wright. 31 p. (NC, Da, M; Vicki J. Cowart, Colorado Geol. Surv., 1313 Sherman St., Room 715, Denver, CO 80203-2277; Chief, Geotechnical Services Branch, Office of the State Engineer, 1313 Sherman St., Room 818, Denver, CO 80203-2277.) Available on the web at http://pubs.usgs.gov/of/2002/ofr-02-488

OF 02-0489. Chemical and mineralogical analyses of coal-bearing strata in the Appalachian Basin, by F. T. Dulong, Nick Fedorko, J. J. Renton and C. B. Cecil. (NC, Da, M.) Available on the web at http://pubs.usgs.gov/of/2002/of02-489/

OF 02-0490. Correlation of the Klamath Mountains and Sierra Nevada, by W. P. Irwin. 2 over-size sheets, scale 1:100,000 (1 inch = about 1.6 miles). (NC, Da, M; California Dep. of Conservation, Div. of Mines and Geol., Mail Stop 14-34, Library, 801 K St., Sacramento, CA 95814-3532; 185 Berry St., Suite 210, San Francisco, CA 94107-1728; and State Office Bldg., 107 South Broadway, Los Angeles, CA 90012; Oregon Dep. of Geol. and Mineral Industries, Suite 965, 800 NE Oregon St. #28, Portland, OR 97232.) (Map-on-demand.) $40. Available on the web at http://geopubs.wr.usgs.gov/open-file/of02-490/

OF 02-0491. CALIFORNIA. Geologic map and digital database of the Pinto Mountain 7.5 minute quadrangle, Riverside County, California, by R. E. Powell. Prepared in cooperation with the National Park Service; California Geological Survey. 34 p., 1 over-size sheet, scale 1:24,000 (1 inch = 2,000 feet). (NC, Da, M; California Dep. of Conservation, Div. of Mines and Geol., Mail Stop 14-34, Library, 801 K St., Sacramento, CA 95814-3532; 185 Berry St., Suite 210, San Francisco, CA 94107-1728; and State Office Bldg., 107 South Broadway, Los Angeles, CA 90012.) Available on the web at http://geopubs.wr.usgs.gov/open-file/of02-491/

OF 02-0492. Publications of the Volcano Hazards Program 2001, by Manuel Nathenson. 9 p. (NC, Da, M; USGS, Library, 2255 North Gemini Dr., Flagstaff, AZ 86001.) Available on the web at http://geopubs.wr.usgs.gov/open-file/of02-492/

OF 02-0493. WISCONSIN. Wisconsin aeromagnetic and gravity maps and data; a web site for distribution of data, by D. L. Daniels and S. L. Snyder. (NC, Da, M.) Available on the web at http://pubs.usgs.gov/of/2002/of02-493/

OF 02-0498. CALIFORNIA. Geologic map and digital database of the San Bernardino Wash 7.5 minute quadrangle, Riverside County, California, by R. E. Powell. Prepared in cooperation with the National Park Service; California Geological Survey. 28 p. (NC, Da, M; California Dep. of Conservation, Div. of Mines and Geol., Mail Stop 14-34, Library, 801 K St., Sacramento, CA 95814-3532; 185 Berry St., Suite 210, San Francisco, CA 94107-1728; and State Office Bldg., 107 South Broadway, Los Angeles, CA 90012.) Available on the web at http://geopubs.wr.usgs.gov/open-file/of02-498/

OF 03-0006. CALIFORNIA. Principal facts for gravity stations in the Dry Valley area, west-central Nevada and east-central California, by E. A. Sanger and D. A. Ponce. 21 p. (NC, Da, M; California Dep. of Conservation, Div. of Mines and Geol., Mail Stop 14-34, Library, 801 K St., Sacramento, CA 95814-3532; 185 Berry St.,

Suite 210, San Francisco, CA 94107-1728; and State Office Bldg., 107 South Broadway, Los Angeles, CA 90012.) Available on the web at
http://geopubs.wr.usgs.gov/open-file/of03-6/

OF 03-0010. Geosoft eXecutables (GX's) developed by the U. S. Geological Survey, version 1.0, with a viewgraph tutorial on GX development, by J. D. Phillips, J. S. Duval and R. W. Saltus. 23 p. (NC, Da, M.) Available on the web at
http://pubs.usgs.gov/of/2003/ofr-03-010

OF 03-0013. Cascadia tsunami deposit database, by Robert Peters, Bruce Jaffee, Guy Gelfenbaum and C. D. Peterson. 24 p. (NC, Da, M.) Available on the web at
http://geopubs.wr.usgs.gov/open-file/of03-13/

OF 03-0015. A Rapid Array Mobilization Procedure (RAMP) agreement for the central United States, by Paul Bodin, Gary Pavlis, Eugene Schweig and Joan Gomberg. 21 p. (NC, Da, M.) Available on the web at
http://pubs.usgs.gov/of/2002/ofr-03-015

OF 03-0017. CALIFORNIA. Preliminary soil-slip susceptibility maps, southwestern California, by D. M. Morton, R. M. Alvarez, R. H. Campbell, K. R. Bovard, D. T. Brown, K. M. Corriea and J. N. Lesser. Prepared in cooperation with California Geological Survey. 14 p., 7 over-size sheets. (NC, Da, M; California Dep. of Conservation, Div. of Mines and Geol., Mail Stop 14-34, Library, 801 K St., Sacramento, CA 95814-3532; 185 Berry St., Suite 210, San Francisco, CA 94107-1728; and State Office Bldg., 107 South Broadway, Los Angeles, CA 90012.) Available on the web at
http://geopubs.wr.usgs.gov/open-file/of03-171

OF 03-0020. $^{40}Ar/^{39}Ar$ dating studies of minerals and rocks in various areas in Mexico; USGS/CRM scientific collaboration; part I, by Alexander Iriondo, M. J. Kunk and J. A. Winick. 79 p. (NC, Da, M.) $70. Available on the web at
http://pubs.usgs.gov/of/2003/ofr-03-020

OF 03-0021. WYOMING. Geochemistry of Permian rocks from the margins of the Phosphoria Basin; Lakeridge Core, western Wyoming, by R. B. Perkins, Brandie McIntyre, J. R. Hein and D. Z. Piper. 60 p. (NC, Da, M; USGS, Library, 2255 North Gemini Dr., Flagstaff, AZ 86001-1698; Geol. Surv. of Wyoming, P.O. Box 3008, University Station, Laramie, WY 82701.) Available on the web at
http://geopubs.wr.usgs.gov/open-file/of03-21/

OF 03-0022. TEXAS. Occurrence of the diamondback terrapin (Malaclemys terrapin littoralis) at South Deer Island in Galveston Bay, Texas, April 2001-May 2002, by J. L. Hogan. Prepared in cooperation with the U. S. Fish and Wildlife Service. 24 p. (NC, Da, M.) $21.

OF 03-0024. COLORADO. A spatial database of bedding attitudes to accompany Geologic map of Boulder-Fort Collins-Greeley area, Colorado, compiled by T. R. Brandt, D. W. Moore, K. E. Murray and R. B. Colton. 9 p., 1 over-size sheet. (NC, Da, M; Vicki J. Cowart, Colorado Geol. Surv., 1313 Sherman St. Room 715, Denver, CO 80203-2277; Chief, Geotechnical Services Branch, Office of the State Engineer, 1313 Sherman St., Room 818, Denver, CO 80203-2277.) Available on the web at
http://pubs.usgs.gov/of/2003/ofr-03-024

OF 03-0025. COLORADO. A spatial database of bedding attitudes to accompany Geologic map of the greater Denver area, Front Range urban corridor, Colorado, compiled by T. R. Brandt, D. W. Moore, K. E. Murray, D. E. Trimble and M. N. Machette. 9 p., 1 over-size sheet. (NC, Da, M; Vicki J. Cowart, Colorado Geol. Surv., 1313 Sherman St. Room 715, Denver, CO 80203-2277; Chief, Geotechnical Services Branch, Office of the State Engineer, 1313 Sherman St., Room 818, Denver, CO 80203-2277.) Available on the web at
http://pubs.usgs.gov/of/2003/ofr-03-025

OF 03-0027. ALASKA. Principal facts for 408 gravity stations in the vicinity of the Talkeetna Mountains, south-central Alaska, by R. L. Morin and J. M. G. Glen. 19 p. (NC, Da, M, A; Alaska Resources Library Information Services [ARLIS], 3150 "C" St., Suite 100, Anchorage, AK 99503; Alaska Dep. of Natural Resources, Div. of Geol. & Geophys. Surv., 794 University Ave., Suite 300, Fairbanks, AK 99709-3645.) Available on the web at
http://geopubs.wr.usgs.gov/open-file/of03-27/

OF 03-0029. Design and construction of a gamma-ray spectrometer system for determining natural radioelement concentrations in geological samples at the U. S. Geological Survey in Reston, Virginia, by S. L. Snyder and J. S. Duval. (NC, Da, M.) Available on the web at
http://pubs.usgs.gov/of/2003/of03-029/

OF 03-0030. ALASKA. Alaska resource data file, Valdez Quadrangle, Alaska, by Travis Hudson. 333 p. (NC, Da, M, A; Alaska Resource Library Information Services [ARLIS], 3150 "C" St., Suite 100, Anchorage, AK 99503; Alaska Dep. of Natural Resources, Div. of Geol. & Geophys. Surv., 794 University Ave., Suite 200, Fairbanks, AK 99709-3645.) Available on the web at
http://geopubs.wr.usgs.gov/open-file/of03-30

OF 03-0032. MONTANA. Water-quality, bed-sediment, and biological data, for streams in the upper Prickly Pear Creek watershed, Montana, 2001, by T. L. Klein, J. N. Thamke, D. D. Harper, A. M. Farag, D. A. Nimick and D. L. Fey. 102 p. (NC, Da, M; Montana Bur. of Mines & Geol., Montana Coll. of Mineral Sci. & Technol., Butte, MT 59701.) Available on the web at
http://pubs.usgs.gov/of/2003/ofr-03-032

OF 03-0034. CALIFORNIA. Rainfall and groundwater level monitoring data (1981-1984) at Weeks Creek landslide, California, by G. F. Wieczorek. (NC, Da, M; California Dep. of Conservation, Div. of Mines and Geol., Mail Stop 14-34, Library, 801 K St., Sacramento, CA 95814-3532; 185 Berry St., Suite 210, San Francisco, CA 94107-1728; and State Office Bldg., 107 South Broadway, Los Angeles, CA 90012.) Available on the web at
http://pubs.usgs.gov/of/2003/of03-034/

OF 03-0038. ALASKA. Alaska resource data file, Taku River Quadrangle, Alaska, by J. C. Barnett and L. D. Miller. 51 p. (NC, Da, M, A; Alaska Resource Library Information Services [ARLIS], 3150 C St., Suite 100, Anchorage, AK 99503; Alaska Dep. of Natural Resources, Div. of Geol. & Geophys. Surv., 794 University Ave., Suite 200, Fairbanks, AK 99709-3645.) Available on the web at
http://geopubs.wr.usgs.gov/open-file/of03-38

OF 03-0039. ALASKA. Brookian stratigraphic plays in the National Petroleum Reserve, Alaska (NPRA), by D. W. Houseknecht. (NC, Da, M, A.) Available on the web at
http://pubs.usgs.gov/of/2003/of03-039/

OF 03-0040. ALASKA. Beaufortian stratigraphic plays in the National Petroleum Reserve, Alaska (NPRA), by D. W. Houseknecht. (NC, Da, M, A.) Available on the web at http://pubs.usgs.gov/of/2003/of03-040/

OF 03-0041. ALASKA. Geochemistry of natural gas; North Slope, Alaska; implications for gas resources, NPRA, by R. C. Burruss, P. G. Lillis and T. S. Collett. (NC, Da, M, A.) Available on the web at http://pubs.usgs.gov/of/2003/of03-041/

OF 03-0043. SOUTH CAROLINA. Near surface S-wave and P-wave seismic velocities of primary geological formations on the Piedmont and Atlantic Coastal Plain of South Carolina, USA, by J. K. Odum, R. A. Williams, W. J. Stephenson and D. M. Worley. 14 p. (NC, M, Da; South Carolina Dep. of Natural Resources, Land, Water, and Conservation Div., Map and Information Ctr., 2221 Devine St., Suite 222, Columbia, SC 29205-2474.) Available on the web at http://pubs.usgs.gov/of/2003/ofr-03-043

OF 03-0044. ALASKA. Economics of undiscovered oil in Federal lands on the National Petroleum Reserve, Alaska, by E. D. Attanasi. 67 p. (NC, Da, M, A.) Available on the web at http://pubs.usgs.gov/of/2003/of03-044/

OF 03-0046. COLORADO. Colorado mineral belt revisited; an analysis of new data, by A. B. Wilson and P. K. Sims. (NC, Da, M.) Available on the web at http://pubs.usgs.gov/of/2003/ofr-03-046

OF 03-0050. COLORADO. Map showing alpine debris flows triggered by a July 28, 1999 thunderstorm in the central Front Range of Colorado, by J. W. Godt and J. A. Coe. 4 p., 1 over-size sheet, scale 1:24,000 (1 inch = 2,000 feet). (NC, Da, M; Vicki J. Cowart, Colorado Geol. Surv., 1313 Sherman St., Room 715, Denver, CO 80203-2277; Chief, Geotechnical Services Branch, Office of the State Engineer, 1313 Sherman St., Room 818, Denver, CO 80203-2277.) Available on the web at http://pubs.usgs.gov/of/2003/ofr-03-050

OF 03-0051. NEVADA, CALIFORNIA. Stratigraphic inferences derived from borehole data of Tertiary basin-filling rocks of the Pahrump Valley basin, Nevada and California, by D. S. Sweetkind, Emily Taylor and Heather Putnam. 30 p. (NC, Da, M; California Dep. of Conservation, Div. of Mines and Geol., Mail Stop 14-34, Library, 801 K St., Sacramento, CA 95814-3532; 185 Berry St., Suite 210, San Francisco, CA 94107-1728; and State Office Bldg., 107 South Broadway, Los Angeles, CA 90012; Nevada Bur. of Mines and Geol., Univ. of Nevada-Reno, Reno, NV 89557-0088.) Available on the web at http://pubs.usgs.gov/of/2003/ofr-03-051

OF 03-0057. ALASKA. Results of elemental and stable isotopic measurements, and dietary composition of Arctic Grayling (*Thymallus arcticus*) collected 2000 and 2001 from the Fortymile River watershed, Alaska, by J. G. Crock, R. R. Seal, II, L. P. Gough and P. Weber-Scannell. 28 p. (NC, Da, M, A; Alaska Div. of Geol. & Geophys. Surv., 794 University Ave., Suite 200, Fairbanks, AK 99709-3645; U.S. Dep. of Interior, Alaska Resources Library, 3150 C St. #100, Anchorage, AK 99503-3916.) Available on the web at http://pubs.usgs.gov/of/2003/ofr-03-057

OF 03-0060. LOUISIANA. Primary causes of wetland loss at Madison Bay, Terrebonne Parish, Louisiana, by R. A. Morton, Ginger Tiling and N. F. Ferina. 43 p. (NC, Da.) $35. Available on the web at http://pubs.usgs.gov/of/2003/of03-060/

OF 03-0064. Trends in metal production and trade in China, by Pui-Kwan Tse. 27 p. (NC, Da, M.) $22.

THEMATIC MAPS AND CHARTS

GEOLOGIC INVESTIGATIONS SERIES

In August 1996, the I-map series name was changed from Miscellaneous Investigations Series Maps to Geologic Investigations Series. All geologic maps approved for publication after August 1996 will be published in the Geologic Investigations Series. The series definition remains the same. Maps on planimetric or topographic bases; regular and irregular areas; various scales; a wide variety of format and subject matter. The series also includes 7 1/2-minute quadrangle photogeologic maps on planimetric bases which show geology as interpreted from aerial photographs. Series also includes maps of Mars and the Moon.

I-2668. NEVADA. Geologic map of the Izzenhood Spring Quadrangle, Lander County, Nevada, by D. A. John and C. T. Wrucke. 2002. Lat 40°45′ to 40°52′30″, long 116°45′ to 116°52′30″. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 37 by 33 inches (in color). $7. Available on the web at http://geopubs.wr.usgs.gov/i-map/i2668

I-2738. COLORADO. Geologic and aeromagnetic maps of the Fossil Ridge area and vicinity, Gunnison County, Colorado, by Ed Dewitt, R. S. Zech, U.S. Geological Survey; C. G. Chase, University of Arizona; R. E. Zartman, R. P. Kucks, U.S. Geological Survey; Bruce Bartelson, Western State College; G. C. Rosenlund, GRG Corporation; and Drummond Earley, III, Daniel B. Stephens and Associates. 2002. Lat 38°35′ to 38°47′30″, long 106°27′30″ to 106°45′. Scale 1:30,000 (1 inch = 2,500 feet). Sheet 54 by 40 inches (in color). (Accompanied by 42 page text.) $7.

I-2744. MISSOURI. Geologic map of the Scott City 7.5-minute quadrangle, Scott and Cape Girardeau counties, Missouri, by R. W. Harrison, U.S. Geological Survey; J. R. Palmer, David Hoffman, J. D. Vaughn, Missouri Department of Natural Resources; J. E. Repetski, N. O. Frederiksen, U.S. Geological Survey; and S. L. Forman, University of Illinois at Chicago. Prepared in cooperation with the Missouri Department of Natural Resources, Geological Survey and Resource Assessment Division. 2002. Two sheets. Sheet 1, lat 37°07′30″ to 37°15′, long 89°30′ to 89°37′30″; sheet 2, lat 37°07′57.6″ to 37°08′17.6″, long 89°30′ to 89°30′25.9″. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 1, 48 by 32 inches; sheet 2, 56 by 40 inches (both in color). (Accompanied by 12 page text.) $14.

I-2761. HAWAII. Atlas of natural hazards in the Hawaiian coastal zone, by C. H. Fletcher, III, E. E. Grossman, B. M. Richmond and A. E. Gibbs. Prepared in cooperation with the University of Hawaii, State of Hawaii Office of Planning, and National Oceanic and Atmospheric Administration. 2002. 182 p. Variable but mostly lat 18°52′ to 22°14′, long 154°45′ to 160°15′. Scale variable to 1:50,000 (1 inch = about 4,200 feet). Pages 17 by 11 inches (in color). $7. Available on the web at http://geopubs.wr.usgs.gov/i-map/i2761/

This report communicates to citizens and regulatory authorities the history and relative intensity of coastal hazards in Hawaii. This information is the key to the wise use and management of coastal resources. The atlas assimilates previous efforts in documenting Hawaiian coastal hazards and combines exising knowledge into a single comprehensive coastal hazard data set. Two types of maps are used: (1) small-scale maps showing a general history of hazards on each island and summarizing coastal hazards in a readily understandable format for general use and (2) a large-scale series of technical maps depicting coastal sections approximately 5 to 7 miles in length with color bands along the coast ranking the relative intensity of each hazard at the adjacent shoreline.

I-2763. Geologic map of MTM-45252 and -45257 quadrangles, Reull Vallis region of Mars, by S. C. Mest and D. A. Crown. Prepared for the National Aeronautics and Space Administration. 2003. Lat -47.5° to -42.5°, long 250° to 260°. Scale 1:1,004,000 (1 mm = 1.004 km) at 255° longitude. Sheet 43 by 39 inches (in color). (Transverse Mercator projection.) $7.

I-2767. MISSOURI. Geologic map of the Stegall Mountain 7.5-minute quadrangle, Shannon and Carter counties, south-central Missouri, by R. W. Harrison, R. C. Orndorff and D. J. Weary. 2002. Lat 37° to 37°07′30″, long 91°07′30″ to 91°15′. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 54 by 40 inches (in color). $7.

I-2768. Regional stratigraphy and petroleum systems of the Appalachian Basin, North America, by C. S. Swezey. 2002. Lat 35°N to 45°N, long 75°W to 85°W. Sheet 47 by 29 inches (in color). $7.

I-2773. MONTANA. Geologic map of the Hogback Mountain Quadrangle, Lewis and Clark and Meagher counties, Montana, by M. W. Reynolds. 2003. Lat 46°45′ to 46°52′30″, long 111°37′30″ to 111°45′. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 48 by 40 inches (in color). $7. Available on the web at http://pubs.usgs.gov/imap/2003/i-2773/

MISCELLANEOUS FIELD STUDIES MAPS

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

MF-2339. NEVADA, CALIFORNIA. Geologic map of the Mound Spring Quadrangle, Nye and Clark counties, Nevada, and Inyo County, California, by S. C. Lundstrom, S. A. Mahan, R. J. Blakely, J. B. Paces, O. D. Young, J. B. Workman and G. L. Dixon. Prepared in cooperation with the Nye County Nuclear Waste Repository Project Office. 2003. Lat 36° to 36°07′30″, long 115°52′30″ to 116°. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 33 by 31 inches (in color). (Accompanied by 8 page text.) (Map-on-demand.) $20. Available on the web at http://pubs.usgs.gov/mf/2002/mf-2339/

MF-2375. COLORADO. Geologic map of the Vail East Quadrangle, Eagle County, Colorado, by K. S. Kellogg, Bruce Bryant and M. H. Redsteer. 2003. Lat 39°37′30″ to 39°45′, long 106°15′ to 106°22′30″. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 32 by 38 inches (in color). (Accompanied by 12 page text.) (Map-on-demand.) $20. Available on the web at http://pubs.usgs.gov/mf/2003/mf-2375/

MF-2390. COLORADO. Geologic map of the Dillon Quadrangle, Summit and Grand counties, Colorado, by K. S. Kellogg. 2002. Lat 39°37′30″ to 39°45′, long 106° to 106°07′30″. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 32 by 33 inches (in color). (Accompanied by 11 page text.) (Map-on-demand.) $20. Available on the web at http://pubs.usgs.gov/mf/2002/mf-2390/

MF-2401. HAWAII. Maps showing lava inundation zones for Mauna Loa, Hawai'i, by F. A. Trusdell, P. Graves and C. R. Tincher. Prepared in cooperation with the County of Hawai'i and Federal Emergency Management Administration. 2002. 10 sheets. Sheet 1, lat 19° to 20°, long 155° to 156°; sheet 2, lat 19°30′ to 19°37′30″, long 155° to 155°30′; sheet 3, lat 19°22′30″ to 19°30′, long 155°15′ to 155°37′30″; sheet 4, lat 19°07′30″ to 19°22′30″, long 155°30′ to 155°37′30″; sheet 5, lat 19° to 19°15′, long 155°30′ to 155°45′; sheet 6, lat 19° to 19°07′30″, long 155°37′ to 155°45′; sheet 7, lat 19° to 19°15′, long 155°45′ to 155°52′30″; sheet 8, lat 19°15′ to 19°22′30″, long 155°37′30″ to 156°; sheet 9, lat 19°30′ to 19°37′30″, long 155°37′30″ to 156°; sheet 10, lat 19°30′ to 20°, long 155°30′ to 155°52′30″. Sheet 1, scale 1:275,000 (1 inch = about 4.3 miles); sheet 2, scale 1:85,000 (1 inch = about 1.3 miles); sheet 3, scale 1:55,000 (1 inch = about 4,580 feet); sheets 4 and 5, scale 1:60,000 (1 inch = 5,000 feet); sheets 6 and 7, scale 1:50,000 (1 inch = 4,200 feet); sheet 8, scale 1:55,000 (1 inch = about 4,580 feet); sheet 9, scale 1:65,000 (1 inch = about 1.3 miles); sheet 10, scale 1:95,000 (1 inch = about 1.5 miles). Sheets 1, 4, 5, 6, 7, and 10, 23 by 34 inches; sheets 2, 3, 8, and 9, 34 by 23 inches (all in color). (Accompanied by 12 page text.) (Map-on-demand.) Each sheet $20. Available on the web at http://geopubs.wr.usgs.gov/map-mf/mf2401/

MF-2402. CALIFORNIA. Geologic map and map database of western Sonoma, northernmost Marin, and southernmost Mendocino counties, California, by M. C. Blake, Jr., R. W. Graymer and R. E. Stamski. 2002. Lat 38°15′ to 38°45′, long 122°45′ to 123°37′30″. Scale 1:100,000 (1 inch = about 1.6 miles). Sheet 34 by 51 inches (in color). (Accompanied by 43 page text.) (Map-on-demand.) $20. Available on the web at http://geopubs.wr.usgs.gov/map-mf/mf2402/

MF-2403. CALIFORNIA. Geologic map and map database of northeastern San Francisco Bay region, California; most of Solano County and parts of Napa, Marin, Contra Costa, San Joaquin, Sacramento, Yolo, and Sonoma counties, by R. W. Graymer, D. L. Jones and E. E. Brabb. 2002. Lat 38° to 38°45′, long 121°30′ to 122°30′. Scale 1:100,000 (1 inch = about 1.6 miles). Sheet 46 by 36 inches (in color). (Accompanied by 28 page text.) (Map-on-demand.) $20. Available on the web at http://geopubs.wr.usgs.gov/map-mf/mf2403/

MF-2404. NEW MEXICO. Geologic map of the Bernalillo NW Quadrangle, Sandoval County, New Mexico, by D. J. Koning and S. F. Personius. 2002. Lat 35°22′30″ to 35°30′, long 106°37′30″ to 106°45′. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 53 by 34 inches (in color). (Map-on-demand.) $20. Available on the web at http://pubs.usgs.gov/mf/2002/mf-2404/

MF-2405. NEW MEXICO. Geologic map of the Santa Ana Pueblo Quadrangle, Sandoval County, New Mexico, by S. F. Personius. 2002. Lat 35°22′30″ to 35°30′, long 106°30′ to 106°37′30″. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 44 by 34 inches (in color). (Map-on-demand.) $20. Available on the web at http://pubs.usgs.gov/mf/2002/mf-2405/

MF-2408. ALASKA. Surficial geologic map of the Hughes Quadrangle, Alaska, by T. D. Hamilton. 2002. Lat 66° to 67°, long 153° to 156°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 42 by 25 inches (in color). (Accompanied by 10 page text.) (Map-on-demand.) $20. Available on the web at http://geopubs.wr.usgs.gov/map-mf/mf2408/

MF-2409. ALASKA. Surficial geologic map of the Bettles Quadrangle, Alaska, by T. D. Hamilton. 2002. Lat 66° to 67°, long 150° to 153°. Scale 1:250,000 (1 inch = about 4 miles). Sheet 40 by 24 inches (in color). (Accompanied by 9 page text.) (Map-on-demand.) $20. Available on the web at http://geopubs.wr.usgs.gov/map-mf/mf2409/

MF-2411. UTAH. Surficial geologic map of the Loop and Druid Arch quadrangles, Canyonlands National Park, Utah, by G. H. Billingsley, D. L. Block and T. J. Felger. Prepared in cooperation with the National Park Service. 2002. Lat 38° to 38°15′, long 109°45′ to 109°52′30″. Scale 1:24,000 (1 inch = 2,000 feet). Sheet 32 by 51 inches (in color). (Map-on-demand.) $20. Available on the web at http://geopubs.wr.usgs.gov/map-mf/mf2411

OUTSIDE PUBLICATIONS

ARTICLES AND REPORTS

Articles by USGS personnel in non-USGS publications recently cited in the GeoRef data base of the American Geological Institute are listed below. Non-USGS personnel who share authorship in articles with USGS personnel are indicated by an asterisk (*) immediately following the name. **These publications are not available from the U.S. Geological Survey.**

G. D. Acton*, C. J. Borton*, P. F. Barker*, Angelo Camerlenghi*, S. A. Brachfeld*, E. A. Cowan*, James Daniels*, E. W. Domack*, Carlota Escutia*, A. J. Evans*, Nicholas Eyles*, Y. J. B. Guyodo*, K. L. Hatfield*, Marina Iorio*, Masao Iwai*, F. T. Kyte*, Christine Lauer*, Andrés Maldonado*, Tobias Moerz*, L. E. Osterman, C. J. Pudsey*, J. D. Schuffert*, C. M. Sjunneskog*, A. L. Weinheimer*, Trevor Williams*, D. M. Winter* and T. C. W. Wolf-Welling*. Palmer Deep composite depth scales for Leg 178 sites 1098 and 1099. Proceedings of the Ocean Drilling Program, Scientific Results (CD-Rom), *in* Proceedings of the Ocean Drilling Program, scientific results, Antarctic glacial history and sea-level change; covering Leg 178 of the cruises of the drilling vessel JOIDES Resolution; Punta Arenas, Chile, to Cape Town, South Africa; sites 1095-1103; 5 February-9 April 1998. (P. F. Baker, editor and others). (Ocean Drilling Program, Leg 178, Shipboard Scientific Party). 178, December 2002. 35 p.

T. S. Ahlbrandt and T. R. Klett. USGS world petroleum assessment 2000; new conventional provinces. Proceedings - World Petroleum Congress = Actes et Documents - Congrès Mondial du Pétrole, *in* Proceedings of the Sixteenth world petroleum congress; Exploration, new petroleum provinces, drilling and production technology, enhanced recovery, deepwater fields. 16, Vol. 2, 2000. p. 87-98.

A. Akhtar* and R. M. Kosanke. Palynomorphs of Permian Gondwana coal from borehole GDH-38, Barapukuria coal basin, Bangladesh. Journal of African Earth Sciences (1994), *in* Gondwana-10; event stratigraphy of Gondwana; proceedings; Volume 2. (B. C. Storey, editor and others). v. 31, no. 1, July 2000. p. 107-117.

J. C. Alt* and W. C. Shanks, III. Serpentinization of abyssal peridotites from the MARK area, Mid-Atlantic Ridge; sulfur geochemistry and reaction modeling. Geochimica et Cosmochimica Acta. v. 67, no. 4, February 15, 2003. p. 641-653.

S. P. Altaner*, R. F. Ylagan*, S. M. Savin*, J. L. Aronson*, H. E. Belkin and Antonio Pozzuoli*. Geothermometry, geochronology, and mass transfer associated with hydrothermal alteration of a rhyolitic hyaloclastite from Ponza Island, Italy. Geochimica et Cosmochimica Acta. v. 67, no. 2, January 2003. p. 275-288.

D. J. Andrews. How fast is rupture during an earthquake? New insights from the 1999 Turkey earthquakes. Geophysical Research Letters. v. 29, no. 15, August 1, 2002. 1 p.

Andres Aslan*, W. A. White*, A. G. Warne and E. H. Guevara*. Holocene evolution of the western Orinoco Delta, Venezuela. Geological Society of America Bulletin. v. 115, no. 4, April 2003. p. 479-498.

D. Avigad*, K. Kolodner*, M. McWilliams*, H. Persing and T. Weissbrod*. Origin of northern Gondwana Cambrian sandstone revealed by detrital zircon SHRIMP dating. Geology (Boulder). v. 31, no. 3, March 2003. p. 227-230.

J. D. Ayotte. NEW HAMPSHIRE. Use of ground-penetrating radar to determine the depositional environment of glacial deposits in southern New Hampshire. Proceedings of the Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP), *in* Proceedings of the symposium on the Application of geophysics to engineering and environmental problems. (R. S. Bell, editor and others). (Environmental and Engineering Geophysical Society). 1994, 1994. p. 629-643.

B. M. Azúa*, Charles DeMets* and Tim Masterlark. Strong interseismic coupling, fault afterslip, and viscoelastic flow before and after the Oct. 9, 1995 Colima-Jalisco earthquake; continuous GPS measurements from Colima, Mexico. Geophysical Research Letters. v. 29, no. 8, April 15, 2002. 4 p.

Shirley Baher*, P. M. Davis* and G. S. Fuis. CALIFORNIA. Separation of site effects and structural focusing in Santa Monica, California; a study of high-frequency weak motions from earthquakes and blasts recorded during the Los Angeles Region Seismic Experiment. Bulletin of the Seismological Society of America. v. 92, no. 8, December 2002. p. 3134-3151.

E. A. Bailey, J. E. Gray and P. M. Theodorakos. ALASKA. Mercury in vegetation and soils at abandoned mercury mines in Southwestern Alaska, USA. Geochemistry - Exploration, Environment, Analysis, *in* Metal mining and the environment; Part 2. (R. J. Allan, editor and others). 2, Part 3, August 2002. p. 275-285.

R. J. Baker, E. W. Best and A. L. Baehr. Used motor oil as a source of MTBE, TAME, and BTEX to ground water. Ground Water Monitoring & Remediation. v. 22, no. 4, 2002. p. 46-51.

W. H. Bakun, R. A. Haugerud, M. G. Hopper and R. S. Ludwin*. WASHINGTON. The December 1872 Washington State earthquake. Bulletin of the Seismological Society of America. v. 92, no. 8, December 2002. p. 3239-3258.

J. D. Bales and R. G. Garrett. Salinity and dissolved-oxygen dynamics in a wind-driven estuary. Hydraulic Engineering: Proceedings

of the National Conference on Hydraulic Engineering, *in* Hydraulic engineering '94; proceedings. (G. V. Cotroneo, editor and others). 1994, Vol. 2, 1994. p. 1311-1315.

J. D. Bales and D. J. Newcomb. Application of a geographic information system to estuarine hydrodynamic modeling. Hydraulic Engineering: Proceedings of the National Conference on Hydraulic Engineering, *in* Proceedings of the 1991 national conference on Hydraulic engineering. (R. M. Shane, editor). 1991, 1991. p. 870-875.

P. F. Barker*, Angelo Camerlenghi*, G. D. Acton*, S. A. Brachfeld*, E. A. Cowan*, James Daniels*, E. W. Domack*, Carlota Escutia*, A. J. Evans*, Nicholas Eyles*, Y. J. B. Guyodo*, K. L. Hatfield*, Marina Iorio*, Masao Iwai*, F. T. Kyte*, Christine Lauer*, Andrés Maldonado*, Tobias Moerz*, L. E. Osterman, C. J. Pudsey*, J. D. Schuffert*, C. M. Sjunneskog*, A. L. Weinheimer*, Trevor Williams*, D. M. Winter*, T. C. W. Wolf-Welling* and A. T. S. Ramsay* (editors). Proceedings of the Ocean Drilling Program, scientific results, Antarctic glacial history and sea-level change; covering Leg 178 of the cruises of the drilling vessel JOIDES Resolution; Punta Arenas, Chile, to Cape Town, South Africa; sites 1095-1103; 5 February-9 April 1998. Proceedings of the Ocean Drilling Program, Scientific Results (CD-Rom). 178, December 2002. variously paginated.

P. F. Barker*, L. E. Osterman and M. A. Hall*. Oxygen and carbon isotope measurements on Neogloboquadrina pachyderma (s) from holes 1096B and 1101A, Antarctic Peninsula margin, Leg 178. Proceedings of the Ocean Drilling Program, Scientific Results (CD-Rom), *in* Proceedings of the Ocean Drilling Program, scientific results, Antarctic glacial history and sea-level change; covering Leg 178 of the cruises of the drilling vessel JOIDES Resolution; Punta Arenas, Chile, to Cape Town, South Africa; sites 1095-1103; 5 February-9 April 1998. (P. F. Barker, editor and others). (Ocean Drilling Program, Leg 178, Shipboard Scientific Party). 178, December 2002. 10 p.

P. M. Barlow, D. P. Ahlfeld* and D. C. Dickerman. Conjunctive-management models for sustained yield of stream-aquifer systems. Journal of Water Resources Planning and Management. v. 129, no. 1, February 2003. p. 35-48.

J. A. Barron and C. M. Isaacs. CALIFORNIA. Updated chronostratigraphic framework for the California Miocene, *in* The Monterey Formation; from rocks to molecules. (C. M. Isaacs, editor and others). New York, NY: Columbia University Press, 2001. p. 393-395.

W. A. Battaglin, Gerhard Kuhn* and R. S. Parker*. COLORADO. Using GIS to link digital spatial data and the precipitation runoff modeling system; Gunnison River basin, Colorado, *in* GIS and environmental modeling; progress and research issues. (M. F. Goodchild, editor and others). Fort Collins, CO: GIS World Books, 1996. p. 159-163.

R. C. Bay*, Buford Price*, G. D. Clow and A. J. Gow*. Climate logging with a new rapid optical technique at Siple Dome. Geophysical Research Letters. v. 28, no. 24, December 15, 2001. p. 4635-4638.

Larry Benson, Joseph Liddicoat*, Joseph Smoot, Andrei Sarna-Wojcicki, Robert Negrini* and Steve Lund*. Age of the Mono Lake excursion and associated tephra. Quaternary Science Reviews. v. 22, no. 2-4, February 2003. p. 135-140.

J. L. Betancourt, H. D. Grissino-Mayer*, M. W. Salzer* and T. W. Swetnam*. A test of "annual resolution" in stalagmites using tree rings. Quaternary Research (New York). v. 58, no. 2, September 2002. p. 197-199.

G. P. Biasi*, R. J. Weldon, II*, T. E. Fumal and G. G. Seitz*. CALIFORNIA. Paleoseismic event dating and the conditional probability of large earthquakes on the Southern San Andreas Fault, California. Bulletin of the Seismological Society of America, *in* Paleoseismology of the San Andreas fault system. (L. B. Grant, editor and others). v. 92, no. 7, October 2002. p. 2761-2781.

J. K. Bohlke, R. Wanty, M. Tuttle, G. Delin and M. Landon. MINNESOTA. Denitrification in the recharge area and discharge area of a transient agricultural nitrate plume in a glacial outwash sand aquifer, Minnesota. Water Resources Research. v. 38, no. 7, July 2002. 26 p.

R. D. Borcherdt. A review of empirical evidence for site coefficients in building-code provisions. NIST Special Publication, *in* Wind and seismic effects; proceedings of the 34th joint panel meeting. (S. A. Cauffman, editor). Report no. 987, September 2002. p. 21-27.

D. J. Bove, D. D. Eberl, D. K. McCarty* and G. P. Meeker. COLORADO. Characterization and modeling of illite crystal particles and growth mechanisms in a zoned hydrothermal deposit, Lake City, Colorado. American Mineralogist, *in* Reynolds commemorative volume. (James Aronson, prefacer and others). v. 87, no. 11-12, December 2002. p. 1546-1556.

P. M. Bradley, M. Fernandez, Jr. and F. H. Chapelle. Carbon limitation of denitrification rates in an anaerobic groundwater system. Environmental Science & Technology, ES & T. v. 26, no. 12, 1992. p. 2377-2381.

H. R. Bravo*, Feng Jiang* and R. J. Hunt. Using groundwater temperature data to constrain parameter estimation in a groundwater flow model of a wetland system. Water Resources Research. v. 38, no. 8, August 2002. 14 p.

R. F. Breault, J. A. Colman, G. R. Aiken and Diane McKnight. Copper speciation and binding by organic matter in copper-contaminated streamwater. Environmental Science & Technology, ES & T. v. 30, no. 12, 1996. p. 3477-3486.

T. M. Brocher, Tom Parsons, A. M. Tréhu*, C. M. Snelson* and M. A. Fisher. Seismic evidence for widespread serpentinized forearc upper mantle along the Cascadia margin. Geology (Boulder). v. 31, no. 3, March 2003. p. 267-270.

C. J. Brown and M. S. Scorca. NEW YORK. Effects of road salting on stormwater and ground-water quality at the East Meadow Brook headwaters area, Nassau County, Long Island, NY, *in* Geology of Long Island and metropolitan New York. Stony Brook, NY: Long Island Geologists, 1995. p. 8-20.

L. T. Brown, D. M. Boore and K. H. Stokoe, II*. Comparison of shear-wave slowness profiles at 10 strong-motion sites from noninvasive SASW measurements and measurements made in boreholes. Bulletin of the Seismological Society of America. v. 92, no. 8, December 2002. p. 3116-3133.

J. R. Budahn, D. M. Unruh, M. J. Kunk, F. M. Byers, Jr., R. M. Kirkham* and R. K. Streufert*. COLORADO. Correlation of late Cenozoic basaltic lava flows in the Carbondale and Eagle collapse

centers in west-central Colorado based on geochemical, isotopic, age, and petrographic data. Special Paper - Geological Society of America, *in* Late Cenozoic evaporite tectonism and volcanism in west-central Colorado. (R. M. Kirkham, editor and others). 366, 2002. p. 167-196.

T. D. Bullen, A. F. White, C. W. Childs*, C. M. Johnson*, B. L. Beard*, P. S. Braterman* and S. A. Welch*. Isotopic fractionation between Fe(III) and Fe(II) in aqueous solutions . Earth and Planetary Science Letters. v. 206, no. 1-2, January 30, 2003. p. 229-236.

W. F. Cannon, W. E. Dean and J. H. Bullock. MINNESOTA. Effects of Holocene climate change on mercury deposition in Elk Lake, Minnesota; the importance of eolian transport in the mercury cycle. Geology (Boulder). v. 31, no. 2, February 2003. p. 187-190.

K. D. Carpenter and I. R. Waite. OREGON. Relations of habitat-specific algal assemblages to land use and water chemistry in the Willamette Basin, Oregon. Environmental Monitoring and Assessment, *in* Monitoring ecological condition in the Western United States; proceedings. (S. S. Sandhu, editor and others). v. 64, no. 1, September 2000. p. 247-257.

M. Celebi. Identification of site frequencies from building response records. NIST Special Publication, *in* Wind and seismic effects; proceedings of the 34th joint panel meeting. (S. A. Cauffman, editor). Report no. 987, September 2002. p. 37-53.

P. Cervelli*, P. Segall*, F. Amelung*, H. Garbeil*, C. Meertens*, S. Owen*, A. Miklius and Michael Lisowski. HAWAII. The 12 september 1999 upper east rift zone dike intrusion at Kilauea Volcano, Hawaii. Journal of Geophysical Research, B, Solid Earth and Planets. v. 107, no. 7, July 10, 2002. 13 p.

D. T. Chafin and D. L. Butler. COLORADO. Dissolved-solids-load contributions of the Pennsylvanian Eagle Valley Evaporite to the Colorado River, west-central Colorado. Special Paper - Geological Society of America, *in* Late Cenozoic evaporite tectonism and volcanism in west-central Colorado. (R. M. Kirkham, editor and others). 366, 2002. p. 149-155.

J. G. Chanat*, K. C. Rice and G. M. Hornberger*. Consistency of patterns in concentration-discharge plots. Water Resources Research. v. 38, no. 8, August 2002. 10 p.

B. L. A. Charlier*, D. W. Peate*, C. J. N. Wilson*, J. B. Lowenstern, Michael Storey* and S. J. A. Brown*. Crystallisation ages in coeval silicic magma bodies; ^{238}U-^{230}Th disequilibrium evidence from the Rotoiti and Earthquake Flat eruption deposits, Taupo volcanic zone, New Zealand. Earth and Planetary Science Letters. v. 206, no. 3-4, February 15, 2003. p. 441-457.

Cheng-lung Chen. Momentum and energy coefficients based on power-law velocity profile. Journal of Hydraulic Engineering. v. 118, no. 11, November 1992. p. 1571-1484.

H. Chen*, Jer-Ming Chiu*, J. Pujol*, E. Schweig, R. Street*, S. C. Chiu* and M. Withers*. 3-D upper crustal V_p and V_s structures in the New Madrid seismic zone using PANDA and regional seismic network data, *in* Study of earthquake source and crustal structure in the New Madrid seismic zone region. (Jer-Ming Chiu). (University of Memphis, Center for Earthquake Research and Information). 2001. 18 p. *Available at:* U. S. Geological Survey, Library, Reston, VA, United States.

R. N. Clark. Spectroscopy of rocks and minerals and principles of spectroscopy, *in* Remote sensing for the earth sciences. (A. N. Rencz, editor). New York, NY: John Wiley & Sons. 3, 1999. p. 3-58.

G. D. Clow and Bruce Koci*. A fast mechanical-access drill for polar glaciology, paleoclimatology, geology, tectonics and biology. Memoirs of National Institute of Polar Research. Special Issue, *in* Ice drilling technology 2000; proceedings of the Fifth international workshop. (Nobuhiko Azuma, editor and others). 56, March 2002. p. 5-37.

A. G. Coates*, Marie-Pierre Aubry*, W. A. Berggren*, L. S. Collins* and M. J. Kunk. Early Neogene history of the Central American arc from Bocas del Toro, western Panama. Geological Society of America Bulletin. v. 115, no. 3, March 2003. p. 271-287.

J. A. Coe, W. L. Ellis, J. W. Godt, W. Z. Savage, J. E. Savage*, J. A. Michael, J. D. Kibler, P. S. Powers, D. J. Lidke and S. Debray*. Seasonal movement of the Slumgullion landslide determined from Global Positioning System surveys and field instrumentation, July 1998-March 2002. Engineering Geology, *in* Remote sensing and monitoring of landslides. (Janusz Wasowski, editor and others). v. 68, no. 1-2, February 2003. p. 67-101.

D. S. Coleman*, A. P. Barth* and J. L. Wooden. Early to middle Proterozoic construction of the Mojave Province, Southwestern United States. Gondwana Research, *in* Mesoproterozoic supercontinent. (J. J. W. Rogers, editor and others). v. 5, no. 1, January 2002. p. 75-78.

S. M. Colman and J. F. Bratton. Anthropogenically induced changes in sediment and biogenic silica fluxes in Chesapeake Bay. Geology (Boulder). v. 31, no. 1, January 2003. p. 71-74.

C. H. Cramer. The New Madrid seismic zone; capturing variability in seismic hazard analyses. Seismological Research Letters. v. 72, no. 6, December 2001. p. 664-672.

J. L. Crane*, D. D. MacDonald*, C. G. Ingersoll, D. E. Smorong*, R. A. Lindskoog*, C. G. Severn*, T. A. Berger* and L. J. Field*. Evaluation of numerical sediment quality targets for the St. Louis River area of concern. Archives of Environmental Contamination and Toxicology. v. 43, no. 1, July 2002. p. 1-10.

Robert Crowder*, Frederick Paillet and Alfred Hess*. High resolution flowmeter logging; a unique combination of borehole geophysics and hydraulics; Part I, Flowmeter techniques and equipment development. Proceedings of the Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP), *in* Proceedings of the symposium on the Application of geophysics to engineering and environmental problems. (R. S. Bell, editor and others). (Environmental and Engineering Geophysical Society). 1994, 1994. p. 361-380.

T. F. Cuffney, M. R. Meador, S. D. Porter and M. E. Gurtz. WASHINGTON. Responses of physical, chemical, and biological indicators of water quality to a gradient of agricultural land use in the Yakima River basin, Washington. Environmental Monitoring and Assessment, *in* Monitoring ecological condition in the Western United States; proceedings. (S. S. Sandhu, editor and others). v. 64, no. 1, September 2000. p. 259-270.

K. J. Cunningham, S. D. Locker*, A. C. Hine*, David Bukry, J. A. Barron* and L. A. Guertin*. FLORIDA. Interplay of late Cenozoic siliciclastic supply and carbonate response on the Southeast

Florida Platform. Journal of Sedimentary Research. v. 73, no. 1, January 2003. p. 31-46.

F. A. D'Agnese, A. K. Turner* and C. C. Faunt. NEVADA, CALIFORNIA. Using geoscientific information systems for three-dimensional regional groundwater flow modeling; Death Valley region, Nevada and California, *in* GIS and environmental modeling; progress and research issues. (M. F. Goodchild, editor and others). Fort Collins, CO: GIS World Books, 1996. p. 265-270.

R. F. De Sawal, V. M. Caruso and Kenneth Osborn. The evolution of framework digital elevation data at the U. S. Geological Survey. ACSM/ASPRS Annual Convention & Exposition Technical Papers, *in* Cartography & surveying. 1996, Vol. 3, 1996. p. 238-247.

Walter Dean. MINNESOTA. A 1500-year record of climatic and environmental change in Elk Lake, Clearwater County, Minnesota; II, Geochemistry, mineralogy, and stable isotopes. Journal of Paleolimnology. v. 27, no. 3, April 2002. p. 301-319.

Walter Dean, Roger Anderson*, J. P. Bradbury and David Anderson*. MINNESOTA. A 1500-year record of climatic and environmental change on Elk Lake, Minnesota; I, Varve thickness and gray-scale density. Journal of Paleolimnology. v. 27, no. 3, April 2002. p. 287-299.

G. N. Delin and M. K. Landon. Effects of surface run-off on the transport of agricultural chemicals to ground water in a sandplain setting. The Science of the Total Environment. v. 295, no. 1-3, August 5, 2002. p. 143-155.

M. D. Dettinger and D. H. Schaefer. NEVADA. Decade-scale hydroclimate forcing of ground-water levels in the central Great Basin, eastern Nevada, *in* Proceedings; American Water Resources Association annual summer sumposium on Water resources and environmental hazards; emphasis on hydrologic and cultural insight in the Pacific Rim. (Raymond Herrmann, editor and others). American Water Resources Association, 1995. p. 195-204.

W. W. Dickinson* and M. R. Rosen. Antarctic permafrost; an analogue for water and diagenetic minerals on Mars. Geology (Boulder). v. 31, no. 3, March 2003. p. 199-202.

B. R. Doe. Further considerations of the Ce/Yb vs. Ba/Ce plot in volcanology and tectonics. International Geology Review. v. 44, no. 10, October 2002. p. 877-912.

N. E. Driver and D. J. Lystrom. Estimation of urban storm-runoff loads, *in* Urban runoff quality; impact and quality enhancement technology; proceedings of an engineering foundation conference. (Ben Urbonas, editor and others). New York, NY: American Society of Civil Engineers, 1986. p. 122-132.

T. H. Druitt*, E. S. Calder*, P. D. Cole*, R. P. Hoblitt, S. C. Loughlin*, G. E. Norton*, L. J. Ritchie*, R. S. J. Sparks* and B. Voight*. Small-volume, highly mobile pyroclastic flows formed by rapid sedimentation from pyroclastic surges at Soufriere Hills Volcano, Montserrat; an important volcanic hazard. Memoir - Geological Society of London, *in* The eruption of Soufrière Hills Volcano, Montserrat from 1995 to 1999. (T. H. Druitt, editor and others). 21, 2002. p. 263-279.

W. A. Duffield. At least Noah had some warning. Eos, Transactions, American Geophysical Union. v. 82, no. 28, July 10, 2001. p. 305, 309.

F. J. Dwyer, T. R. Doane* and M. L. Hinman* (editors). Environmental toxicology and risk assessment; modeling and risk assessment (sixth volume). ASTM Special Technical Publication. STP. 1317, 1997. 564 p.

T. S. Dyman, J. W. Schmoker and J. C. Quinn. Heterogeneity of Morrow sandstone reservoirs measured by production characteristics. Circular - Oklahoma Geological Survey, *in* Marine clastics in the southern Midcontinent, 1997 symposium. (K. S. Johnson, editor). (Oklahoma Geological Survey). Report no. 103, 2000. p. 119-127.

J. W. East. TEXAS. Characterization of water and sediment quality in Christmas Bay, Texas. American Water Resources Association Technical Publication Series TPS, *in* Coastal water resources; proceedings. (John Lesnik, R., editor). 02-1, 2002. p. 319-324.

W. H. Eddins and T. J. Zembrzuski, Jr. NORTH CAROLINA. Factors affecting accuracy of slope-area discharge determination of the September 1992 flood in Raven Fork, western North Carolina. Hydraulic Engineering: Proceedings of the National Conference on Hydraulic Engineering, *in* Hydraulic engineering '94; proceedings. (G. V. Cotroneo, editor and others). 1994, Vol. 2, 1994. p. 645-649.

S. R. Ellis and J. B. Lindner-Lunsford. COLORADO. Comparison of conceptually based and regression rainfall-runoff models in the Denver metropolitan area, Colorado, USA, *in* Urban drainage modelling; proceedings of the International symposium on Comparison of urban drainage models with real catchment data, UDM '86. (C. Maksimovic, editor and others). Oxford: Pergamon Press, 1986. p. 263-273.

J. E. Estes. The mythical map; current conditions and future consideration, *in* Proceedings; Mapping and remote sensing tools for the 21st century; conference and exposition with feature emphasis on public/private interaction. (C. W. Greve, prefacer). (American Society for Photogrammetry and Remote Sensing). Bethesda, MD: American Society for Photogrammetry and Remote Sensing, 1994. p. 157-168.

C. A. Finn, Sridhar Anandakrishan*, John Goodge*, Kurt Panter*, Christine Siddoway* and Terry Wilson*. Potential of airborne geophysical capabilities discussed. Eos, Transactions, American Geophysical Union. v. 84, no. 1, January 7, 2003. p. 4.

J. L. Fio, Roger Fujii and S. J. Deverell. Selenium mobility and distribution in irrigated and nonirrigated Alluvial soils. Soil Science Society of America Journal. v. 55, no. 5, October 1991. p. 1313-1320.

A. L. Flint, L. E. Flint, J. A. Hevesi and D. B. Hudson. NEVADA. Characterization of arid land water-balance processes at Yucca Mountain, Nevada. Geophysical Monograph, *in* Flow and transport through unsaturated fractured rock; an overview. (D. D. Evans, editor and others). 42, 2001. p. 135-149.

R. M. Flores and J. W. M'Gonigle. MONTANA. Oligocene-Miocene lacustrine rudite-dominated alluvial-fan delta, Southwest Montana, USA. Cuadernos de Geología Ibérica, *in* The dynamics of coarse-grained deltas. (C. J. Dabrio, editor and others). 15, 1991. p. 241-278.

A. L. Foster and R. P. Ashley. Characterization of arsenic species in microbial mats from an inactive gold mine. Geochemistry - Exploration, Environment, Analysis, *in* Metal mining and the environ-

ment; Part 2. (R. J. Allan, editor and others). 2, Part 3, August 2002. p. 253-261.

A. G. Fountain. WASHINGTON. Subglacial water flow inferred from stream measurements at South Cascade Glacier, Washington, USA. Journal of Glaciology. v. 38, no. 128, 1992. p. 51-64.

Karl Fuchs*, Marc Tittgemeyer*, Trond Ryberg*, Friedemann Wenzel* and Walter Mooney. Global significance of a sub-Moho boundary layer (SMBL) deduced from high-resolution seismic observations. International Geology Review. v. 44, no. 8, August 2002. p. 671-685.

G. S. Fuis, R. W. Clayton*, P. M. Davis*, Trond Ryberg*, W. J. Lutter*, D. A. Okaya*, Egill Hauksson*, Claus Prodehl*, J. M. Murphy, M. L. Benthien*, S. A. Baher*, M. D. Kohler*, Kristina Thygesen*, Gerry Simila* and G. R. Keller*. CALIFORNIA. Fault systems of the 1971 San Fernando and 1994 Northridge earthquakes, Southern California; relocated aftershocks and seismic images from LARSE II. Geology (Boulder). v. 31, no. 2, February 2003. p. 171-174.

T. E. Fumal, M. J. Rymer and G. G. Seitz*. CALIFORNIA. Timing of large earthquakes since A.D. 800 on the Mission Creek strand of the San Andreas fault zone at Thousand Palms Oasis, near Palm Springs, California. Bulletin of the Seismological Society of America, *in* Paleoseismology of the San Andreas fault system. (L. B. Grant, editor and others). v. 92, no. 7, October 2002. p. 2841-2860.

T. E. Fumal, R. J. Weldon, II, G. P. Biasi*, T. E. Dawson, G. G. Seitz*, W. T. Frost and D. P. Schwartz. CALIFORNIA. Evidence for large earthquakes on the San Andreas Fault at the Wrightwood, California, paleoseismic site; A.D. 500 to present. Bulletin of the Seismological Society of America, *in* Paleoseismology of the San Andreas fault system. (L. B. Grant, editor and others). v. 92, no. 7, October 2002. p. 2726-2760.

C. A. Gardner and R. A. White. Seismicity, gas emission and deformation from 18 July to 25 September 1995 during the initial phreatic phase of the eruption of Soufriere Hills Volcano, Monserrat. Memoir - Geological Society of London, *in* The eruption of Soufrière Hills Volcano, Montserrat from 1995 to 1999. (T. H. Druitt, editor and others). 21, 2002. p. 567-581.

E. L. Geist. Complex earthquake rupture and local tsunamis. Journal of Geophysical Research, B, Solid Earth and Planets. v. 107, no. 5, May 10, 2002. 16 p.

N. J. Godfrey*, G. S. Fuis, Victoria Langenheim, D. A. Okaya* and T. M. Brocher. CALIFORNIA. Lower crustal deformation beneath the central Transverse Ranges, Southern California; results from the Los Angeles region seismic experiment. Journal of Geophysical Research, B, Solid Earth and Planets. v. 107, no. 7, July 10, 2002. 19 p.

M. F. Goodchild*, L. T. Steyaert, B. O. Parks*, Carol Johnston*, D. R. Maidment*, Michael Crane and Sandi Glendinning* (editors). GIS and environmental modeling; progress and research issues Fort Collins, CO: GIS World Books, 1996. 486 p.

J. E. Gray, J. G. Crock and B. K. Lasorsa*. NEVADA. Mercury methylation at mercury mines in the Humboldt River basin, Nevada, USA. Geochemistry - Exploration, Environment, Analysis, *in* Metal mining and the environment; Part 1. (R. J. Allan, editor and others). 2, Part 2, May 2002. p. 143-149.

J. R. Gray and L. J. Schmidt*. Sediment-data quality, availability, and emerging technologies; a discussion. International Gravel-Bed Rivers Workshop, *in* Gravel-bed rivers V. (M. P. Mosley, editor). 5, 2001. p. 369-373.

Ronald Greeley* and Raymond Batson. The compact NASA atlas of the solar system. Cambridge: Cambridge University Press, 2001. 408 p.

C. W. Greve (prefacer). Proceedings; Mapping and remote sensing tools for the 21st century; conference and exposition with feature emphasis on public/private interaction. Bethesda, MD: American Society for Photogrammetry and Remote Sensing, 1994. 240 p.

C. A. Grosbois*, A. J. Horowitz, J. J. Smith and K. A. Elrick*. WASHINGTON. The effect of mining and related activities on the sediment trace element geochemistry of the Spokane River basin, Washington, USA. Geochemistry - Exploration, Environment, Analysis, *in* Metal mining and the environment; Part 1. (R. J. Allan, editor and others). 2, Part 2, May 2002. p. 131-142.

R. L. Hadden. The George F. Kunz collection of the U. S. Geological Survey Library. Bulletin of the New York Mineralogical Club. v. 116, no. 11, November 2002. p. 6.

J. E. Hammer*, M. J. Rutherford* and W. Hildreth. ALASKA. Magma storage prior to the 1912 eruption at Novarupta, Alaska. Contributions to Mineralogy and Petrology. v. 144, no. 2, November 2002. p. 144-162.

S. S. Harlan*, J. W. Geissman* and W. R. Premo. WYOMING. Paleomagnetism and geochronology of an early Proterozoic quartz diorite in the southern Wind River Range, Wyoming, USA. Tectonophysics, *in* Paleomagnetism applied to tectonics; a tribute to Rob Van der Voo. (Conall Mac Niocaill, editor and others). v. 362, no. 1-4, February 6, 2003. p. 105-122.

E. L. Harp and R. W. Jibson. Anomalous concentrations of seismically triggered rock falls in Pacoima Canyon; are they caused by highly susceptible slopes or local amplification of seismic shaking? Bulletin of the Seismological Society of America. v. 92, no. 8, December 2002. p. 3180-3189.

Ron Harris*, T. E. Moore, Karl Wirth*, C. G. Mull* and John McBride*. Rooted Brooks Range ophiolite; implications for Cordilleran terranes . Geology (Boulder). v. 31, no. 1, January 2003. p. 91-92.

Egill Hauksson*, Patrick Small*, Katrin Hafner*, Robert Busby*, Robert Clayton*, James Goltz*, Tom Heaton*, Kate Hutton*, Hiroo Kanamori*, Jascha Polet*, Doug Given, L. M. Jones and David Wald. CALIFORNIA. Southern California Seismic Network; Caltech/USGS element of TriNet 1997-2001. Seismological Research Letters. v. 72, no. 6, December 2001. p. 690-704.

G. B. Haxel, C. E. Jacobson*, S. M. Richard*, R. M. Tosdal* and M. J. Grubensky*. ARIZONA. The Orocopia Schist in Southwest Arizona; early Tertiary oceanic rocks trapped or transported far inland. Special Paper - Geological Society of America, *in* Contributions to crustal evolution of the Southwestern United States. (Andrew Barth, editor). 365, 2002. p. 99-128.

P. C. Heigold*, L. D. McGinnis*, C. P. Ervin* and R. P. Kucks (compilers). Simple Bouguer gravity anomaly map of Illinois. Illinois Map, Report no. 1, 1993. 1 sheet.

K. M. Hess, J. A. Davis, D. B. Kent and J. A. Coston. MASSACHUSETTS. Multispecies reactive tracer test in an aquifer with spatially variable chemical conditions, Cape Cod, Massachusetts; dispersive transport of bromide and nickel. Water Resources Research. v. 38, no. 8, August 2002. 17 p.

D. K. Higley, D. O. Cox* and R. J. Weimer*. COLORADO. Petroleum system and production characteristics of the Muddy (J) Sandstone (Lower Cretaceous) Wattenberg continuous gas field, Denver Basin, Colorado. AAPG Bulletin. v. 87, no. 1, January 2003. p. 15-37.

D. P. Hill, Phillip Dawson, M. J. S. Johnston, A. M. Pitt, G. P. Biasi* and Ken Smith*. CALIFORNIA. Very-long-period volcanic earthquakes beneath Mammoth Mountain, California. Geophysical Research Letters. v. 29, no. 10, May 15, 2002. 4 p.

G. A. Hodgkins, I. C. James, II and T. G. Huntington. Historical changes in lake ice-out dates as indicators of climate change in New England, 1850-2000. International Journal of Climatology. v. 22, no. 15, December 2002. p. 1819-1827.

R. R. Holmes, Jr. and K. A. Oberg. Sediment and hydraulic data collected during the upper Mississippi River system flood of 1993. Proceedings - Federal Interagency Sedimentation Conference, *in* Sedimentation technologies for management of natural resources in the 21st century; proceedings of the Sixth Federal interagency sedimentation conference. (Interagency Advisory Committee on Water Data, Subcommittee on Sedimentation). 6, Vol. 2, 1996. p. 38-44.

T. L. Holzer, J. C. Tinsley, III, M. J. Bennett and C. S. Mueller. CALIFORNIA. Observed and predicted ground deformation; Miller Farm lateral spread, Watsonville, California. Technical Report - National Center for Earthquake Engineering Research, *in* Proceedings from the 5th U.S.-Japan workshop on Earthquake resistant design of lifeline facilities and countermeasures against soil liquefaction. (T. D. O'Rourke and others). (U. S., National Center for Earthquake Engineering Research). Report no. NCEER-94-0026, November 12, 1994. p. 79-99. *Available at:* National Technical Information Service, (703)605-6000, order number PB95-220802NEG, Springfield, VA, United States.

P. N. Hooge. USGS Glacier Bay field station develops GIS tools, *in* Marine geography; GIS for the oceans and seas. (Joe Breman, editor). Redlands, CA: Environmental Systems Research Institute Press, 2002. p. 183-184.

Philip Hooge. USGS Glacier Bay Field Station develops GIS tools, *in* Conservation geography; case studies in GIS, computer mapping, and activism. (C. L. Convis, Jr., editor). Redlands, CA: ESRI Press, 2001. p. 139-140.

A. J. Horowitz, K. R. Lum*, J. R. Garbarino, G. E. M. Hall*, Claire Lemieux* and C. R. Demas. Problems associated with using filtration to define dissolved trace element concentrations in natural water samples . Environmental Science & Technology, ES & T. v. 30, no. 11, 1996. p. 3398-3400.

Larry Hothem, Kary Craun and Maria Marsella. Operational experience with airborne GPS controlled photography at the U. S. Geological Survey, *in* Proceedings; Mapping and remote sensing tools for the 21st century; conference and exposition with feature emphasis on public/private interaction. (C. W. Greve, prefacer). (American Society for Photogrammetry and Remote Sensing). Bethesda, MD: American Society for Photogrammetry and Remote Sensing, 1994. p. 51-63.

S. E. Hough and Stacey Martin*. Magnitude estimates of two large aftershocks of the 16 December 1811 New Madrid earthquake. Bulletin of the Seismological Society of America. v. 92, no. 8, December 2002. p. 3259-3268.

M. R. Hudson, S. S. Harlan* and R. M. Kirkham*. COLORADO. Paleomagnetic investigation of the structural deformation and magnetostratigraphy of Neogene basaltic flows in western Colorado. Special Paper - Geological Society of America, *in* Late Cenozoic evaporite tectonism and volcanism in west-central Colorado. (R. M. Kirkham, editor and others). 366, 2002. p. 197-212.

T. L. Huntzinger. Surface water; a critical resource of the Great Plains, *in* Conservation of Great Plains ecosystems; current science, future options. (S. R. Johnson, editor and others). Boston, MA: Kluwer Academic Publishers, 1995. p. 253-273.

C. G. Ingersoll, D. D. MacDonald*, W. G. Brumbaugh*, B. T. Johnson*, N. E. Kemble*, J. L. Kunz*, T. W. May*, N. Wang*, J. R. Smith*, D. W. Sparks* and D. S. Ireland*. INDIANA. Toxicity assessment of sediments from the Grand Calumet River and Indiana Harbor Canal in northwestern Indiana, USA. Archives of Environmental Contamination and Toxicology. v. 43, no. 2, August 2002. p. 156-167.

C. M. Isaacs. Statistical evaluation of interlaboratory data from the Cooperative Monterey Organic Geochemistry Study, *in* The Monterey Formation; from rocks to molecules. (C. M. Isaacs, editor and others). New York, NY: Columbia University Press, 2001. p. 461-524.

C. M. Isaacs. CALIFORNIA. Depositional framework of the Monterey Formation, California, *in* The Monterey Formation; from rocks to molecules. (C. M. Isaacs, editor and others). New York, NY: Columbia University Press, 2001. p. 1-30.

C. M. Isaacs, R. M. Pollastro, J. A. Barron, J. C. Ingle, Jr.*, David Bukry, R. B. Dunbar*, M. A. Keller, J. H. Tomson* and M. D. Lewan. CALIFORNIA. Geologic and paleontologic features of rock samples in the Cooperative Monterey Organic Geochemistry Study, Naples Beach and Lions Head sections, California, *in* The Monterey Formation; from rocks to molecules. (C. M. Isaacs, editor and others). New York, NY: Columbia University Press, 2001. p. 373-392.

C. M. Isaacs and Jürgen Rullkötter* (editors). The Monterey Formation; from rocks to molecules. New York, NY: Columbia University Press, 2001. 553 p.

Masao Iwai*, G. D. Acton*, D. B. Lazarus*, L. E. Osterman and Trevor Williams*. Magnetobiochronologic synthesis of ODP Leg 178 rise sediments from the Pacific sector of the Southern Ocean; sites 1095, 1096, and 1101. Proceedings of the Ocean Drilling Program, Scientific Results (CD-Rom), *in* Proceedings of the Ocean Drilling Program, scientific results, Antarctic glacial history and sea-level change; covering Leg 178 of the cruises of the drilling vessel JOIDES Resolution; Punta Arenas, Chile, to Cape Town, South Africa; sites 1095-1103; 5 February-9 April 1998. (P. F. Baker, editor and others). (Ocean Drilling Program, Leg 178, Shipboard Scientific Party). 178, December 2002. 40 p.

C. E. Jacobson*, Marty Grove*, M. M. Stamp*, Ana Vucic*, F. R. Oyarzabal*, G. B. Haxel, R. M. Tosdal* and D. R. Sherrod. CALI-

FORNIA. Exhumation history of the Orocopia Schist and related rocks in the Gavilan Hills area of southeasternmost California. Special Paper - Geological Society of America, *in* Contributions to crustal evolution of the Southwestern United States. (Andrew Barth, editor). 365, 2002. p. 129-154.

M. E. Jennings and B. C. Massey. TEXAS. Central Texas floods, 1921-1991, *in* Proceedings; AWRA Texas Section spring meeting on the Hydrology of floods and watershed systems.. Texas Water Resources Institute, 1992. p. 25-26.

T. M. Johnson* and T. D. Bullen. Selenium isotope fractionation during reduction by Fe(II)-Fe(III) hydroxide-sulfate (green rust). Geochimica et Cosmochimica Acta. v. 67, no. 3, February 2003. p. 413-419.

E. G. Josberger and N. M. Mognard*. A passive microwave snow depth algorithm with a proxy for snow metamorphism. Hydrological Processes, *in* Applications of remote sensing in hydrology. (Alain Pietroniro, editor and others). v. 16, no. 8, June 15, 2002. p. 1557-1568.

Kenzi Karasaki* and Devin Galloway. NEVADA. Method development and stratigraphy for the characterization of complexly faulted and fractured rhyolitic tuffs, Yucca Mountain, Nevada, USA, *in* Heterogeneity of groundwater flow and site evaluation; proceedings of an NEA workshop—Hétérogénéité de l'ecoulement des eaux souterraines et évaluation des sites; compte rendu d'une réunion de travail de l'AEN. Paris: OECD Nuclear Energy Agency, 1991. p. 197-210.

R. E. Kayen, J. K. Mitchell* and T. L. Holzer. CALIFORNIA. Ground motion characteristics and their relation to soil liquefaction at the Wildlife liquefaction array, Imperial Valley, California. Technical Report - National Center for Earthquake Engineering Research, *in* Proceedings from the 5th U.S.-Japan workshop on Earthquake resistant design of lifeline facilities and countermeasures against soil liquefaction. (T. D. O'Rourke and others). (U. S., National Center for Earthquake Engineering Research). Report no. NCEER-94-0026, November 12, 1994. p. 267-283. *Available at:* National Technical Information Service, (703)605-6000, order number PB95-220802NEG, Springfield, VA, United States.

C. F. Keech. NEBRASKA. Groundwater levels in Nebraska, 1970. Nebraska Water Survey Paper, Report no. WSP-28, May 1971. 87 p.

K. J. Kendrick, D. M. Morton, S. G. Wells* and R. W. Simpson. CALIFORNIA. Spatial and temporal deformation along the northern San Jacinto Fault, Southern California; implications for slip rates. Bulletin of the Seismological Society of America, *in* Paleoseismology of the San Andreas fault system. (L. B. Grant, editor and others). v. 92, no. 7, October 2002. p. 2782-2802.

W. J. Kennedy*, W. A. Cobban and N. H. Landman*. Two species of Placenticeras (Ammonitina) from the Upper Cretaceous (Campanian) of the Western Interior of the United States. American Museum Novitates. 3173, June 26, 1996. 13 p.

N. H. Kenyon*, A. M. Akhmetzhanov* and D. C. Twichell. Sand wave fields beneath the Loop Current, Gulf of Mexico; reworking of fan sands. Marine Geology, *in* Recognition and interpretation of deep-water sediment waves; implications for palaeoceanography, hydrocarbon exploration and flow process interpretation. (R. B. Wynn, editor and others). v. 192, no. 1-3, December 15, 2002. p. 297-307.

R. M. Kirkham* and R. B. Scott. COLORADO. Introduction to late Cenozoic evaporite tectonism and volcanism in west-central Colorado. Special Paper - Geological Society of America, *in* Late Cenozoic evaporite tectonism and volcanism in west-central Colorado. (R. M. Kirkham, editor and others). 366, 2002. p. 1-14.

R. M. Kirkham*, R. B. Scott and T. W. Judkins (editors). COLORADO. Late Cenozoic evaporite tectonism and volcanism in west-central Colorado. Special Paper - Geological Society of America. 366, 2002. 234 p.

R. M. Kirkham*, R. K. Streufert*, M. J. Kunk, J. R. Budahn, M. R. Hudson and W. J. Perry, Jr. COLORADO. Evaporite tectonism in the lower Roaring Fork River valley, west-central Colorado. Special Paper - Geological Society of America, *in* Late Cenozoic evaporite tectonism and volcanism in west-central Colorado. (R. M. Kirkham, editor and others). 366, 2002. p. 73-99.

Loey Knapp*, G. J. McCabe, Jr., L. E. Hay and R. S. Parker. COLORADO. A high-resolution moisture index; Gunnison River basin, Colorado, *in* GIS and environmental modeling; progress and research issues. (M. F. Goodchild, editor and others). Fort Collins, CO: GIS World Books, 1996. p. 469-472.

L. F. Konikow and Chin-Fu Tsang*. The modeling process and model validation . Ground Water. v. 30, no. 4, August 1992. p. 622-624.

C. P. Konrad, D. B. Booth*, S. J. Burges* and D. R. Montgomery*. Partial entrainment of gravel bars during floods. Water Resources Research. v. 38, no. 7, July 2002. 16 p.

D. P. Krabbenhoft. Mercury and methylmercury transport in the environment, *in* Proceedings and summary report; workshop on the fate, transport, and transformation of mercury in aquatic and terrestrial environments. (U. S. Environmental Protection Agency, National Risk Management Research Laboratory and others). Report no. EPA/625/R-02/005, June 2002. p. 47-49. *Available at:* U. S. Environmental Protection Agency, Washington, DC, United States.

G. J. Kukla*, M. L. Bender*, Jacques-Louis de Beaulieu*, G. C. Bond*, W. S. Broecker*, Piet Cleveringa*, J. E. Gavin*, T. D. Herbert*, John Imbrie*, Jean Jouzel*, L. D. Keigwin*, Karen-Luise Knudsen*, J. F. McManus*, Josef Merkt*, D. R. Muhs*, Helmut Müller*, R. Z. Poore, S. C. Porter*, Guy Seret*, N. J. Shackleton*, Charles Turner*, P. C. Tzedakis* and I. J. Winograd. Last interglacial climates. Quaternary Research (New York). v. 58, no. 1, July 2002. p. 2-13.

M. J. Kunk, J. R. Budahn, D. M. Unruh, J. O. Stanley*, R. M. Kirkham*, Bruce Bryant, R. B. Scott, D. J. Lidke and R. K. Streufert*. COLORADO. $^{40}Ar/^{39}Ar$ ages of late Cenozoic volcanic rocks within and around the Carbondale and Eagle collapse centers, Colorado; constraints on the timing of evaporite-related collapse and incision of the Colorado River. Special Paper - Geological Society of America, *in* Late Cenozoic evaporite tectonism and volcanism in west-central Colorado. (R. M. Kirkham, editor and others). 366, 2002. p. 213-234.

K. A. Kvenvolden and T. D. Lorenson. Global occurrences of gas hydrate. The Proceedings of the ... International Offshore and Polar Engineering Conference, *in* The proceedings of the Eleventh

(2001) international offshore and polar engineering conference. (J. S. Chung, editor and others). 11, Vol. 1, 2001. p. 462-467.

J. W. LaBaugh, D. O. Rosenberg and T. C. Winter. MINNESOTA. Groundwater contribution to the water and chemical budgets of Williams Lake, Minnesota, 1980-1991. Canadian Journal of Fisheries and Aquatic Sciences = Journal Canadien des Sciences Halieutiques et Aquatiques. v. 52, no. 4, April 1995. p. 754-767.

Mark Lavelle*, P. F. Barker* and L. E. Osterman. Strontium isotope dating of barnacle fragments; Antarctic Peninsula Site 1103. Proceedings of the Ocean Drilling Program, Scientific Results (CD-Rom), *in* Proceedings of the Ocean Drilling Program, scientific results, Antarctic glacial history and sea-level change; covering Leg 178 of the cruises of the drilling vessel JOIDES Resolution; Punta Arenas, Chile, to Cape Town, South Africa; sites 1095-1103; 5 February-9 April 1998. (P. F. Baker, editor and others). (Ocean Drilling Program, Leg 178, Shipboard Scientific Party). 178, December 2002. 8 p.

H. J. Lee, J. P. M. Syvitski*, Gary Parker*, Daniel Orange*, Jacques Locat*, E. W. H. Hutton* and Jasim Imran*. Distinguishing sediment waves from slope failure deposits; field examples, including the "Humboldt Slide", and modelling results. Marine Geology, *in* Recognition and interpretation of deep-water sediment waves; implications for palaeoceanography, hydrocarbon exploration and flow process interpretation. (R. B. Wynn, editor and others). v. 192, no. 1-3, December 15, 2002. p. 79-104.

M. W. Lee. Biot-Gassmann theory for velocities of gas hydrate-bearing sediments. Geophysics. v. 67, no. 6, December 2002. p. 1711-1719.

J. A. Leenheer, R. L. Wershaw, G. K. Brown and M. M. Reddy. Characterization and diagenesis of strong-acid carboxyl groups in humic substances. Applied Geochemistry. v. 18, no. 3, March 2003. p. 471-482.

M. D. Lewan and T. E. Ruble*. Comparison of petroleum generation kinetics by isothermal hydrous and nonisothermal open-system pyrolysis. Organic Geochemistry, *in* Advances in organic geochemistry 2001; proceedings of the 20th international meeting on Organic geochemistry. (R. Di Primio, editor and others). v. 33, no. 12, December 2002. p. 1457-1475.

R. D. Libra* and Dave Conell. Keeping ahead of groundwater quality questions. Iowa Geology. 26, 2001. p. 10-11.

D. J. Lidke, M. R. Hudson, R. B. Scott, R. R. Shroba, M. J. Kunk, W. J. Perry, Jr., R. M. Kirkham*, J. R. Budahn*, R. K. Streufert*, J. O. Stanley* and B. L. Widmann*. COLORADO. Eagle collapse center; interpretation of evidence for late Cenozoic evaporite-related deformation in the Eagle River basin, Colorado. Special Paper - Geological Society of America, *in* Late Cenozoic evaporite tectonism and volcanism in west-central Colorado. (R. M. Kirkham, editor and others). 366, 2002. p. 101-120.

D. A. Lieblich, A. Legchenko*, F. P. Haeni and A. Portselan*. CONNECTICUT. Surface nuclear magnetic resonance experiments to detect subsurface water at Haddam Meadows, Connecticut. Proceedings of the Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP), *in* Proceedings of the symposium on the Application of geophysics to engineering and environmental problems. (R. S. Bell, editor and others). (Environmental and Engineering Geophysical Society). 1994, 1994. p. 717-736.

J. J. Lienkaemper, T. E. Dawson, S. F. Personius*, G. G. Seitz*, L. M. Reidy* and D. P. Schwartz*. A record of large earthquakes on the southern Hayward Fault for the past 500 years. Bulletin of the Seismological Society of America, *in* Paleoseismology of the San Andreas fault system. (L. B. Grant, editor and others). v. 92, no. 7, October 2002. p. 2637-2658.

S. C. Lindvall*, T. K. Rockwell*, T. E. Dawson, J. G. Helms* and K. W. Bowman*. CALIFORNIA. Evidence for two surface ruptures in the past 500 years on the San Andreas Fault at Frazier Mountain, California. Bulletin of the Seismological Society of America, *in* Paleoseismology of the San Andreas fault system. (L. B. Grant, editor and others). v. 92, no. 7, October 2002. p. 2689-2703.

T. D. Lortenson, W. J. Winters*, P. E. Hart* and C. K. Paull*. Gas hydrate occurrence in the northern Gulf of Mexico studied with giant piston cores. Eos, Transactions, American Geophysical Union. v. 83, no. 51, December 17, 2002. p. 601, 607.

S. C. Loughlin*, E. S. Calder*, A. B. Clarke*, P. D. Cole*, R. Luckett*, M. T. Mangan, D. M. Pyle*, R. S. J. Sparks*, B. Voight* and R. B. Watts*. Pyroclastic flows and surges generated by the 25 June 1997 dome collapse, Soufriere Hills Volcano, Montserrat. Memoir - Geological Society of London, *in* The eruption of Soufrière Hills Volcano, Montserrat from 1995 to 1999. (T. H. Druitt, editor and others). 21, 2002. p. 191-209.

J. K. Lovelace and W. M. Lovelace. LOUISIANA. Hydrogeologic unit nomenclature and computer codes for aquifers and confining units in Louisiana. Water Resources Special Report. 9, 1995. 12 p.

Zhong Lu, Charles Wicks, Jr., Daniel Dzurisin, J. A. Power, S. C. Moran and Wayne Thatcher. ALASKA. Magmatic inflation at a dormant stratovolcano; 1996-1998 activity at Mount Peulik Volcano, Alaska, revealed by satellite radar interferometry. Journal of Geophysical Research, B, Solid Earth and Planets. v. 107, no. 7, July 10, 2002. 13 p.

K. J. Lucey and D. A. Goolsby. IOWA. Effects of climatic variations over 11 years on nitrate-nitrogen concentrations in the Raccoon River, Iowa. Journal of Environmental Quality. v. 22, no. 1, March 1993. p. 38-46.

Karen Lund, J. N. Aleinikoff, K. V. Evans and C. M. Fanning*. IDAHO. SHRIMP U-Pb geochronology of Neoproterozoic Windermere Supergroup, central Idaho; implications for rifting of western Laurentia and synchroneity of Sturtian glacial deposits. Geological Society of America Bulletin. v. 115, no. 3, March 2003. p. 349-372.

M. E. Lyford*, J. L. Betancourt and S. T. Jackson*. MONTANA. Holocene vegetation and climate history of the northern Bighorn Basin, southern Montana. Quaternary Research (New York). v. 58, no. 2, September 2002. p. 171-181.

R. Macdonald* and H. E. Belkin. Compositional variation in minerals of the chevkinite group. Mineralogical Magazine. v. 66, no. 6(439), December 2002. p. 1075-1098.

T. J. Mack. Use of borehole electromagnetic-induction and natural-gamma logs to delineate a contaminant plume in ground water. Proceedings of the Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP), *in* Pro-

ceedings of the symposium on the Application of geophysics to engineering and environmental problems. (R. S. Bell, editor and others). (Environmental and Engineering Geophysical Society). 1994, 1994. p. 443-459.

D. B. Madsen*, A. M. Sarna-Wojcicki and R. S. Thompson. CALIFORNIA. A late Pleistocene tephra layer in the southern Great Basin and Colorado Plateau derived from Mono Craters, California. Quaternary Research (New York). v. 57, no. 3, May 2002. p. 382-390.

J. J. Magnuson*, R. H. Wynne*, B. J. Benson* and D. M. Robertson. Lake and river ice as a powerful indicator of past and present climates. Verhandlungen - Internationale Vereinigung für Theoretische und Angewandte Limnologie = Proceedings - International Association of Theoretical and Applied Limnology, *in* International Association of Theoretical and Applied Limnology; 27th congress; proceedings. (W. D. Williams, editor). 27, Part 5, December 2000. p. 2749-2756.

R. H. Mariner, W. C. Evans, T. S. Presser and L. D. White. CALIFORNIA, OREGON, WASHINGTON. Excess nitrogen in selected thermal and mineral springs of the Cascade Range in Northern California, Oregon, and Washington; sedimentary or volcanic in origin? Journal of Volcanology and Geothermal Research. v. 121, no. 1-2, February 15, 2003. p. 99-114.

C. D. Masters, E. D. Attanasi and D. H. Root. World petroleum assessment and analysis. Proceedings - World Petroleum Congress = Actes et Documents - Congrès Mondial du Pétrole, *in* Proceedings of the Fourteenth world petroleum congress; Volume 2, Exploration, production and reserves. 14, Vol. 2, 1994. p. 529-541.

C. D. Masters, D. H. Root and E. D. Attanasi. World petroleum resource assessment and analysis by basin. Proceedings - World Petroleum Congress = Actes et Documents - Congrès Mondial du Pétrole, *in* Proceedings of the Fourteenth world petroleum congress; Volume 2, Exploration, production and reserves. 14, Vol. 2, 1994. p. 543.

A. Matmon*, P. R. Bierman*, J. Larsen*, S. Southworth, M. Pavich and M. Caffee*. Temporally and spatially uniform rates of erosion in the Southern Appalachian Great Smoky Mountains. Geology (Boulder). v. 31, no. 2, February 2003. p. 155-158.

T. W. May, R. H. Wiedmeyer, J. Gober* and S. Larson*. SOUTH DAKOTA. Influence of mining-related activities on concentrations of metals in water and sediment from streams of the Black Hills, South Dakota. Archives of Environmental Contamination and Toxicology. v. 40, no. 1, January 2001. p. 1-9.

J. H. McBride*, D. R. Kolata* and T. G. Hildenbrand. Geophysical constraints on understanding the origin of the Illinois Basin and its underlying crust. Tectonophysics. v. 363, no. 1-2, February 20, 2003. p. 45-78.

T. A. McGilvery* and D. W. Houseknecht. Depositional systems and diagenesis of slope and basin facies, Atoka Formation, Arkoma Basin. Circular - Oklahoma Geological Survey, *in* Marine clastics in the southern Midcontinent, 1997 symposium. (K. S. Johnson, editor). (Oklahoma Geological Survey). Report no. 103, 2000. p. 129-140.

R. H. Meade and Lois Koehnken*. Distribution of the river dolphin, tonina Inia geoffrensis, in the Orinoco River basin of Venezuela and Colombia. INTERCIENCIA. v. 16, no. 6, December 1991. p. 300-312.

M. R. Meador. Water transfer projects and the role of fisheries biologists. Fisheries (Bethesda). v. 21, no. 9, September 1996. p. 18-23.

Asta Miklius and Peter Cervelli. Interaction between Kilauea and Mauna Loa. Nature (London). v. 421, no. 6920, January 16, 2003. p. 229.

K. G. Miller*, P. P. McLaughlin, Jr.*, J. V. Browning*, Marie-Pierre Aubry*, S. J. Baxter*, R. N. Benson*, B. S. Cramer*, S. E. Curtin, M. D. Feigenson*, John Hernandez*, M. E. Katz*, T. E. McKenna*, D. H. Monteverde*, S. F. Pekar*, K. W. Ramsey*, S. A. Strohmeier*, P. J. Sugarman* and Jane Uptegrove*. Bethany Beach Site. Proceedings of the Ocean Drilling Program, Part A: Initial Reports, *in* Proceedings of the Ocean Drilling Program, initial reports, New Jersey coastal plain; covering onshore boreholes as part of the New Jersey sea-level transect; Ancora Site, July-August 1998; Ocean View Site, September-October 1999; Bethany Beach Site, May-June 2000. (K. G. Miller and others). (Ocean Drilling Program, Leg 174AX, Shipboard Scientific Party). 174AX, Suppl. February 2003. 85 p.

K. G. Miller*, P. J. Sugarman*, J. V. Browning*, Marie-Pierre Aubry*, G. J. Brenner*, B. S. Cramer*, M. D. Feigenson*, M. D. Georgescu*, K. T. Metzger*, D. H. Monteverde*, F. L. Muller*, L. G. Mullikin*, R. K. Olsson*, S. F. Pekar*, Don Queen, T. J. Reilly*, Linda de Romero*, E. S. Skinner* and Jane Uptegrove*. Ancora Site. Proceedings of the Ocean Drilling Program, Part A: Initial Reports, *in* Proceedings of the Ocean Drilling Program, initial reports, New Jersey coastal plain; covering onshore boreholes as part of the New Jersey sea-level transect; Ancora Site, July-August 1998; Ocean View Site, September-October 1999; Bethany Beach Site, May-June 2000. (K. G. Miller and others). (Ocean Drilling Program, Leg 174AX, Shipboard Scientific Party). 174AX, Suppl. February 2003. 65 p.

K. G. Miller*, P. J. Sugarman*, P. P. McLaughlin, Jr.*, J. V. Browning*, S. F. Pekar*, Marie-Pierre Aubry*, S. J. Baxter*, R. N. Benson*, G. J. Brenner*, B. S. Cramer*, S. E. Curtin, M. D. Feigenson*, M. D. Georgescu*, John Hernandez*, M. E. Katz*, Francine McCarthy*, T. E. McKenna*, K. T. Metzger*, D. H. Monteverde*, F. L. Muller*, L. G. Mullikin*, R. K. Olsson*, Don Queen, K. W. Ramsey*, T. J. Reilly*, Linda de Romero*, E. S. Skinner*, S. A. Strohmeier*, Sarah Tiffin*, Jane Uptegrove*, Bill Van Sickel*, K. E. Petronotis* and L. L. Peters*. NEW JERSEY. Proceedings of the Ocean Drilling Program, initial reports, New Jersey coastal plain; covering onshore boreholes as part of the New Jersey sea-level transect; Ancora Site, July-August 1998; Ocean View Site, September-October 1999; Bethany Beach Site, May-June 2000. Proceedings of the Ocean Drilling Program, Part A: Initial Reports. 174AX, Suppl. February 2003. variously paginated.

L. G. Miller and K. D. Goodwin* (editors). Biogeochemistry of halomethanes. Biogeochemistry (Dordrecht). v. 60, no. 2, 2002. p. 121-161.

P. C. D. Milly. Some current themes in physical hydrology of the land-atmosphere interface. IAHS-AISH Publication, *in* Hydrological interactions between atmosphere, soil and vegetation; proceedings. (G. Kienitz, editor and others). 204, 1991. p. 3-10.

Rakesh Minocha*, W. C. Shortle*, G. B. Lawrence, M. B. David* and S. C. Minocha*. Putrescine; a marker of stress in red spruce

trees. General Technical Report NE, *in* Proceedings; 1995 meeting of the Northern Global Change Program. (John Hom, editor and others). Report no. NE-214, 1995. p. 119-130.

R. H. Moench and J. N. Aleinikoff. Stratigraphy, geochronology, and accretionary terrane settings of two Bronson Hill arc sequences, northern New England. Physics and Chemistry of the Earth, *in* Taconic convergence; orogen, foreland basin and craton. (C. E. Mitchell, editor and others). v. 27, no. 1-3, January 2002. p. 47-95.

N. E. Monsen, J. E. Cloern, L. V. Lucas and S. G. Monismith*. The use of flushing time, residence time, and age as transport time scales. Limnology and Oceanography. v. 47, no. 5, September 2002. p. 1545-1553.

S. L. Montgomery* and C. E. Barker. ALASKA. Coalbed methane, Cook Inlet, south-central Alaska; a potential giant gas resource. AAPG Bulletin. v. 87, no. 1, January 2003. p. 1-13.

L. A. Morgan, W. C. Shanks, III, D. A. Lovalvo*, S. Y. Johnson, W. J. Stephenson, K. L. Pierce, S. S. Harlan*, C. A. Finn, G. Lee, M. Webring, B. Schulze*, J. Dühn*, R. Sweeney and L. Balistrieri. Exploration and discovery in Yellowstone Lake; results from high-resolution sonar imaging, seismic reflection profiling, and submersible studies. Journal of Volcanology and Geothermal Research. v. 122, no. 3-4, April 1, 2003. p. 221-242.

D. R. Muhs. Evidence for the timing and duration of the last interglacial period from high-precision uranium-series ages of corals on tectonically stable coastlines. Quaternary Research (New York). v. 58, no. 1, July 2002. p. 36-40.

C. W. Naeser, Bruce Bryant, M. J. Kunk, Karl Kellogg, R. A. Donelick* and W. J. Perry, Jr. COLORADO. Tertiary cooling and tectonic history of the White River Uplift, Gore Range, and western Front Range, central Colorado; evidence from fission-track and $^{39}Ar/^{40}Ar$ ages. Special Paper - Geological Society of America, *in* Late Cenozoic evaporite tectonism and volcanism in west-central Colorado. (R. M. Kirkham, editor and others). 366, 2002. p. 31-53.

Masaru Nakano*, Hiroyuki Kumagai* and B. A. Chouet. Source mechanism of long-period events at Kusatsu-Shirane Volcano, Japan, inferred from waveform inversion of the effective excitation functions. Journal of Volcanology and Geothermal Research. v. 122, no. 3-4, April 1, 2003. p. 149-164.

M. Nathenson, J. M. Thompson and L. D. White. CALIFORNIA. Slightly thermal springs and non-thermal springs at Mount Shasta, California; chemistry and recharge elevations. Journal of Volcanology and Geothermal Research. v. 121, no. 1-2, February 15, 2003. p. 137-153.

C. M. Nelson. Mary C. Rabbitt (1915-2002). Geotimes. v. 47, no. 12, December 2002. p. 32.

J. M. Nelson, M. W. Schmeeckle* and R. L. Shreve*. Turbulence and particle entrainment. International Gravel-Bed Rivers Workshop, *in* Gravel-bed rivers V. (M. P. Mosley, editor). 5, 2001. p. 221-248.

J. G. Newton. Induced sinkholes; an engineering problem in carbonate terranes. Papers and Proceedings of Applied Geography Conferences, *in* Third annual applied geography conference. (J. W. Frazier, editor and others). 3, 1980. p. 185-194.

D. J. Nichols and M. S. Ellis. WYOMING, MONTANA, NORTH DAKOTA. U. S. Geological Survey resource assessment of selected Tertiary coal zones in Wyoming, Montana and North Dakota. Mining Engineering. v. 55, no. 1, January 2003. p. 33-38.

M. Nipper*, R. S. Carr, J. M. Biedenbach, R. L. Hooten and K. Miller*. Toxicological and chemical assessment of ordnance compounds in marine sediments and porewaters. Marine Pollution Bulletin. v. 44, no. 8, August 2002. p. 789-806.

K. F. Nordstrom*, N. L. Jackson*, J. R. Allen and D. J. Sherman*. Longshore sediment transport rates on a microtidal estuarine beach. Journal of Waterway, Port, Coastal and Ocean Engineering. v. 129, no. 1, February 2003. p. 1-4.

W. R. Normark, D. J. W. Piper*, Henry Posamentier*, Carlos Pirmez* and Sébastien Migeon*. Variability in form and growth of sediment waves on turbidite channel levees. Marine Geology, *in* Recognition and interpretation of deep-water sediment waves; implications for palaeoceanography, hydrocarbon exploration and flow process interpretation. (R. B. Wynn, editor and others). v. 192, no. 1-3, December 15, 2002. p. 23-58.

S. D. Oktay*, D. J. Brabander*, J. P. Smith*, John Kada*, Thomas Bullen and C. R. Olsen*. NEW YORK. WTC geochemical fingerprint recorded in New York Harbor sediments. Eos, Transactions, American Geophysical Union. v. 84, no. 3, January 21, 2003. p. 21, 24-25.

G. R. Olhoeft. Geophysical observations of geological, hydrological and geochemical heterogeneity. Proceedings of the Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP), *in* Proceedings of the symposium on the Application of geophysics to engineering and environmental problems. (R. S. Bell, editor and others). (Environmental and Engineering Geophysical Society). 1994, 1994. p. 129-141.

R. C. Orndorff, D. J. Weary and Stanka Sebela*. MISSOURI. Geologic framework of the Ozarks of south-central Missouri; contributions to a conceptual model of karst. Missouri Speleology. v. 42, no. 1-2, 2002. p. 1-8.

L. E. Osterman, R. Z. Poore and John Barron. Climate variability of the Holocene, Site 1098, Palmer Deep, Antarctica. Proceedings of the Ocean Drilling Program, Scientific Results (CD-Rom), *in* Proceedings of the Ocean Drilling Program, scientific results, Antarctic glacial history and sea-level change; covering Leg 178 of the cruises of the drilling vessel JOIDES Resolution; Punta Arenas, Chile, to Cape Town, South Africa; sites 1095-1103; 5 February-9 April 1998. (P. F. Baker, editor and others). (Ocean Drilling Program, Leg 178, Shipboard Scientific Party). 178, December 2002. 45 p.

Frederick Paillet, Robert Crowder* and Alfred Hess*. High-resolution flowmeter logging; a unique combination of borehole geophysics and hydraulics; Part II, Borehole applications with the heat-pulse flowmeter. Proceedings of the Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP), *in* Proceedings of the symposium on the Application of geophysics to engineering and environmental problems. (R. S. Bell, editor and others). (Environmental and Engineering Geophysical Society). 1994, 1994. p. 381-404.

J. F. Pankow*, R. E. Rathbun and J. S. Zogorski. Calculated volatilization rates of fuel oxygenate compounds and other gasoline-

related compounds from rivers and streams. Chemosphere (Oxford). v. 33, no. 5, 1996. p. 921-937.

Michael Parker*, J. G. Thompson*, R. R. Reynolds, Jr., M. D. Smith* and William Templin. Water-use conservation forecasts for the Salinas River Valley Basin Management Plan; estimates for block pricing, *in* Proceedings; American Water Resources Association annual summer sumposium on Water resources and environmental hazards; emphasis on hydrologic and cultural insight in the Pacific Rim. (Raymond Herrmann, editor and others). American Water Resources Association, 1995. p. 393-400.

Tom Parsons, R. J. Blakely and T. M. Brocher. A simple algorithm for sequentially incorporating gravity observations in seismic traveltime tomography. International Geology Review. v. 43, no. 12, December 2001. p. 1073-1086.

J. T. Pearce*, F. J. Pazzaglia*, E. B. Evenson*, D. E. Lawson*, R. B. Alley*, Dru Germanoski* and J. D. Denner. ALASKA. Bedload component of glacially discharged sediment; insights from the Matanuska Glacier, Alaska. Geology (Boulder). v. 31, no. 1, January 2003. p. 7-10.

Louise Pellerin, V. F. Labson and M. C. Pfeifer*. VETEM; a very early time electromagnetic system. Proceedings of the Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP), *in* Proceedings of the symposium on the Application of geophysics to engineering and environmental problems. (R. S. Bell, editor and others). (Environmental and Engineering Geophysical Society). 1994, 1994. p. 795-802.

W. J. Perry, Jr., J. J. Miller and R. B. Scott. COLORADO. Implications for evaporite tectonism in the Carbondale and Eagle collapse centers of west-central Colorado, based on reprocessed seismic reflection data. Special Paper - Geological Society of America, *in* Late Cenozoic evaporite tectonism and volcanism in west-central Colorado. (R. M. Kirkham, editor and others). 366, 2002. p. 55-72.

R. J. Pike. Scenes into numbers; facing the subjective in landform quantification, *in* Interpreting remote sensing imagery; human factors. (R. R. Hoffman, editor and others). Boca Raton, FL: Lewis Publishers, 2001. p. 83-114.

D. Z. Piper and C. M. Isaacs. The Monterey Formation; bottom-water redox conditions and photic-zone primary productivity, *in* The Monterey Formation; from rocks to molecules. (C. M. Isaacs, editor and others). New York, NY: Columbia University Press, 2001. p. 31-58.

P. J. Potts*, Michael Thompson* and Stephen Wilson. G-Probe-1; an international proficiency test for microprobe laboratories; report on round 1; February 2002 (TB-1 basaltic glass). Geostandards Newsletter. v. 26, no. 2, July 2002. p. 197-235.

T. L. Pratt, J. H. Shaw*, J. F. Dolan*, S. A. Christofferson*, R. A. Williams, J. K. Odum and Andreas Plesch*. CALIFORNIA. Shallow seismic imaging of folds above the Puente Hills blind-thrust fault, Los Angeles, California. Geophysical Research Letters. v. 29, no. 9, May 1, 2002. 4 p.

L. J. Puckett, T. K. Cowdery, P. B. McMahon, L. H. Tornes and J. D. Stoner. Using chemical, hydrologic, and age dating analysis to delineate redox processes and flow paths in the riparian zone of a glacial outwash aquifer-stream system. Water Resources Research. v. 38, no. 8, August 2002. 20 p.

B. C. Reed, D. Swets*, L. Bard, J. Brown and J. Rowland. Interactive visualization of vegetation dynamics. International Geoscience and Remote Sensing Symposium, *in* Scanning the present and resolving the future; proceedings. 2001, Vol. 1, 2001. p. 210-212.

T. J. Reilly, K. G. Miller* and M. D. Feigenson*. Latest Eocene-earliest Miocene Sr isotopic reference section, Site 522, eastern South Atlantic. Paleoceanography. v. 17, no. 3, September 2002. 9 p.

D. M. Robertson, R. H. Wynne* and W. Y. B. Chang*. NEW HAMPSHIRE. Influence of El Niño on lake and river ice cover in the Northern Hemisphere from 1900 to 1995. Verhandlungen - Internationale Vereinigung für Theoretische und Angewandte Limnologie = Proceedings - International Association of Theoretical and Applied Limnology, *in* International Association of Theoretical and Applied Limnology; 27th congress; proceedings. (W. D. Williams, editor). 27, Part 5, December 2000. p. 2784-2788.

François Roure*, Rudy Swennen* and D. G. Howell. Subthrust reservoir appraisal. Proceedings - World Petroleum Congress = Actes et Documents - Congrès Mondial du Pétrole, *in* Proceedings of the Sixteenth world petroleum congress; Exploration, new petroleum provinces, drilling and production technology, enhanced recovery, deepwater fields. 16, Vol. 2, 2000. p. 18-24.

Jürgen Rullkötter*, C. M. Isaacs, G. D. Abbott*, David Baskin*, David Brincat*, S. E. Calvert*, J. A. Curiale*, Ulrich Disko*, R. B. Dunbar*, Trond Hanesand*, H. L. ten Haven*, Janet Hope*, Zoltan Horvath*, A. Y. Huc*, D. M. Jarvie*, B. J. Katz*, G. A. D. Law*, J. D. King, G. E. Michael*, W. L. Orr*, R. A. Royle*, Matthias Radke*, R. G. Schaefer*, Arndt Schimmelmann*, Stefan Schouten*, R. E. Summons*, S. C. Talukdar*, Nils Talnaes*, Amane Waseda* and Doreen Zaback*. Compilation of geochemical data and analytical methods; Cooperative Monterey Organic Geochemistry Study, *in* The Monterey Formation; from rocks to molecules. (C. M. Isaacs, editor and others). New York, NY: Columbia University Press, 2001. p. 399-460.

R. W. Saltus, T. L. Hudson*, S. M. Karl and R. L. Morin. Rooted Brooks Range ophiolite; implications for Cordilleran terranes . Geology (Boulder). v. 31, no. 1, January 2003. p. 92.

R. B. Scott, Bruce Bryant and W. J. Perry, Jr. COLORADO. Late Cenozoic deformation by evaporite tectonism in the Grand Hogback Monocline, southwest of the White River Uplift, Colorado. Special Paper - Geological Society of America, *in* Late Cenozoic evaporite tectonism and volcanism in west-central Colorado. (R. M. Kirkham, editor and others). 366, 2002. p. 121-147.

Stanka Sebela*, R. C. Orndorff and D. J. Weary. MISSOURI. Geologic controls in the development of caves in the south-central Ozarks of Missouri. Missouri Speleology. v. 42, no. 1-2, 2002. p. 9-20.

R. B. See, D. L. Naftz and C. L. Qualls. GIS-assisted regression analysis to identify sources of selenium in streams. Journal of the American Water Resources Association. v. 28, no. 2, April 1992. p. 315-330.

D. J. Selkowitz, D. B. Fagre and B. A. Reardon. Interannual variations in snowpack in the Crown of the Continent Ecosystem. Hydrological Processes, *in* Eastern snow conference/western snow conference. (J. P. Hardy, editor and others). v. 16, no. 18, December 30, 2002. p. 3651-3665.

Jane Selverstone*, Meghan Hodgins*, J. N. Aleinikoff and C. M. Fanning*. Mesoproterozoic reactivation of a Paleoproterozoic transcurrent boundary in the northern Colorado Front Range; implications for ~1.7- and 1.4-Ga tectonism. Rocky Mountain Geology. v. 35, no. 2, 2000. p. 139-162.

Nicasio Sepulveda. A statistical estimator of the spatial distribution of the water-table altitude. Ground Water. v. 41, no. 1, February 2003. p. 66-71.

F. B. Shaffer. NEBRASKA. Availability and use of water in Nebraska, 1970. Nebraska Water Survey Paper, Report no. WSP-31, 1972. 67 p.

J. H. Shaw*, Andreas Plesch*, J. F. Dolan*, T. L. Pratt and Patricia Fiore*. CALIFORNIA. Puente Hills blind-thrust system, Los Angeles, California. Bulletin of the Seismological Society of America. v. 92, no. 8, December 2002. p. 2946-2960.

S. K. Sherrod*, J. Belnap and M. E. Miller*. Comparison of methods for nutrient measurement in Calcareous soils; ion-exchange resin bag, capsule, membrane, and chemical extractions. Soil Science. v. 167, no. 10, October 2002. p. 666-679.

Raymond Slade, Jr. Measurement of streamflow discharge by indirect methods, *in* Proceedings; AWRA Texas Section spring meeting on the Hydrology of floods and watershed systems.. Texas Water Resources Institute, 1992. p. 79-85.

R. S. Sonenshein. FLORIDA. Documentation of a digital, spatial data base for hydrologic investigations, southeastern Florida, *in* AWRA symposium on Geographic information systems and water resources.. American Water Resources Association, 1993.

Jan Srodon*, Norbert Clauer* and D. D. Eberl. Interpretation of K-Ar dates of illitic clays from sedimentary rocks aided by modeling. American Mineralogist, *in* Reynolds commemorative volume. (James Aronson, prefacer and others). v. 87, no. 11-12, December 2002. p. 1528-1535.

E. K. Steele, Jr. NEBRASKA. Use of groundwater for irrigation in Clay County, Nebraska, 1970. Nebraska Water Survey Paper, Report no. WSP-32, 1972. 40 p.

E. K. Steele, Jr. NEBRASKA. Use of groundwater for irrigation in Hamilton and York counties, Nebraska. Nebraska Water Survey Paper, Report no. WSP-27, February 1971. 43 p.

G. V. Steele and P. B. Wigley*. NEBRASKA. Groundwater levels in Nebraska, 1990. Nebraska Water Survey Paper, Report no. WSP-69, 1992. 82 p.

J. H. Stewart, Ricardo Amaya-Martínez* and A. R. Palmer*. Neoproterozoic and Cambrian strata of Sonora, Mexico; Rodinian supercontinent to Laurentian Cordilleran margin. Special Paper - Geological Society of America, *in* Contributions to crustal evolution of the Southwestern United States. (Andrew Barth, editor). 365, 2002. p. 5-48.

K. R. Stockstill*, T. A. Vogel* and T. W. Sisson. WASHINGTON. Origin and emplacement of the andesite of Burroughs Mountain, a zoned, large-volume lava flow at Mount Rainier, Washington, USA. Journal of Volcanology and Geothermal Research. v. 119, no. 1-4, January 1, 2003. p. 275-296.

Douglas Stow*, Scott Daeschner*, Allen Hope*, David Douglas, Ranga Myneni* and Liming Zhou*. Spatial-temporal trend of seasonally-integrated normalized difference vegetation index as an indicator of changes in Arctic tundra vegetation in the early 1990s. International Geoscience and Remote Sensing Symposium, *in* Scanning the present and resolving the future; proceedings. 2001, Vol. 1, 2001. p. 181-183.

Michael Studinger*, R. E. Bell*, G. D. Karner*, A. A. Tikku*, J. W. Holt*, D. L. Morse*, T. G. Richter*, S. D. Kempf*, M. E. Peters*, D. D. Blankenship*, R. E. Sweeney and V. L. Rystrom. Ice cover, landscape setting, and geological framework of Lake Vostok, East Antarctica. Earth and Planetary Science Letters. v. 205, no. 3-4, January 10, 2003. p. 195-210.

J. L. Svarc, J. C. Savage, W. H. Prescott and M. H. Murray. OREGON, WASHINGTON. Strain accumulation and rotation in western Oregon and southwestern Washington. Journal of Geophysical Research, B, Solid Earth and Planets. v. 107, no. 5, May 10, 2002. 7 p.

J. L. Svarc, J. C. Savage, W. H. Prescott and A. R. Ramelli*. NEVADA. Strain accumulation and rotation in western Nevada, 1993-2000. Journal of Geophysical Research, B, Solid Earth and Planets. v. 107, no. 5, May 10, 2002. 13 p.

Takahiro Tagami*, Yoshitomo Nishimitsu* and D. R. Sherrod. HAWAII. Rejuvenated-stage volcanism after 0.6-m.y. quiescence at West Maui Volcano, Hawaii; new evidence from K-Ar ages and chemistry of Lahaina Volcanics. Journal of Volcanology and Geothermal Research. v. 120, no. 3-4, February 1, 2003. p. 207-214.

L. L. Tan, M. E. Jennings and Sam Brush*. TEXAS. Calculation of urban stormwater quality in the Dallas-Ft. Worth, Texas area, *in* Proceedings; AWRA Texas Section spring meeting on the Hydrology of floods and watershed systems.. Texas Water Resources Institute, 1992. p. 99-105.

K. L. Tanaka, J. S. Kargel, D. J. MacKinnon, T. M. Hare and Nick Hoffman*. Catastrophic erosion of Hellas basin rim on Mars induced by magmatic intrusion into volatile-rich rocks. Geophysical Research Letters. v. 29, no. 8, April 15, 2002. 4 p.

M. Tarzia*, B. De Vivo*, R. Somma*, R. A. Ayuso, R. A. R. McGill* and R. R. Parrish*. Anthropogenic vs. natural pollution; an environmental study of an industrial site under remediation (Naples, Italy). Geochemistry - Exploration, Environment, Analysis. 2, Part 1, February 2001. p. 45-56.

C. C. Teague*, D. E. Barrick*, Peter Lilleboe* and R. T. Cheng. Canal and river tests of a RiverSonde streamflow measurement system. International Geoscience and Remote Sensing Symposium, *in* Scanning the present and resolving the future; proceedings. (Tony Milne, chairperson and others). 2001, Vol. 3, 2001. p. 1288-1290.

U. S. ten Brink and M. H. Taylor. Crustal structure of central Lake Baikal; insights into intracontinental rifting. Journal of Geophysical Research, B, Solid Earth and Planets. v. 107, no. 7, July 10, 2002. 15 p.

M. E. Tennyson and C. M. Isaacs. CALIFORNIA. Geologic setting and petroleum geology of Santa Maria and Santa Barbara basins, coastal California, *in* The Monterey Formation; from rocks to molecules. (C. M. Isaacs, editor and others). New York, NY: Columbia University Press, 2001. p. 206-229.

M. A. Thomas*, C. H. Conaway*, D. J. Steding*, Mark Marvin-DiPasquale, K. E. Abu-Saba* and A. R. Flegal*. CALIFORNIA. Mercury contamination from historic mining in water and sediment, Guadalupe River and San Francisco Bay, California. Geochemistry - Exploration, Environment, Analysis, *in* Metal mining and the environment; Part 2. (R. J. Allan, editor and others). 2, Part 3, August 2002. p. 211-217.

T. N. Titus, H. H. Kieffer and P. R. Christensen*. Exposed water ice discovered near the South Pole of Mars. Science. v. 299, no. 5609, February 14, 2003. p. 1048-1051.

D. M. Triplehorn*, B. F. Bohor and W. J. Betterton. Chemical disaggregation of kaolinitic claystones (tonsteins and flint clays). Clays and Clay Minerals. v. 50, no. 6, December 2002. p. 766-770.

G. F. Ulmishek and L. B. Magoon. The petroleum system; concept and applications. Proceedings - World Petroleum Congress = Actes et Documents - Congrès Mondial du Pétrole, *in* Proceedings of the Fourteenth world petroleum congress; Volume 2, Exploration, production and reserves. 14, Vol. 2, 1994. p. 3-11.

K. L. Von Damm*, M. D. Lilley*, W. C. Shanks, III, M. Brockington*, A. M. Bray*, K. M. O'Grady*, E. Olson*, A. Graham*, G. Proskurowski*, R. Collier*, J. Cowen*, R. Haymon*, M. K. Tivey*, D. Fornari*, K. Nakamura*, E. McLaughlin-West*, T. Shank*, J. Kaye*, J. Hobson*, J. Sarrazin*, M. Sparrow*, D. Hubbard*, D. McGee*, S. Brinson* and B. Cushman*. Extraordinary phase separation and segregation in vent fluids from the southern East Pacific Rise. Earth and Planetary Science Letters. v. 206, no. 3-4, February 15, 2003. p. 365-378.

R. A. Walters. A three-dimensional, finite element model for coastal and estuarine circulation. Continental Shelf Research. v. 12, no. 1, 1992. p. 83-102.

G. A. Waychunas*, C. C. Fuller, J. A. Davis and J. J. Rehr*. Surface complexation and precipitate geometry for aqueous Zn(II) sorption on ferrihydrite; II, XANES analysis and simulation. Geochimica et Cosmochimica Acta, *in* Advances in oxide and sulfide mineral surface chemistry. (Udo Becker, editor and others). v. 67, no. 5, March 2003. p. 1031-1043.

E. P. Weeks. Effect of topography on gas flow in unsaturated fractured rock; concepts and observations. Geophysical Monograph, *in* Flow and transport through unsaturated fractured rock; an overview. (D. D. Evans, editor and others). 42, 2001. p. 53-59.

J. L. Weitz and J. D. Love (compilers). WYOMING. Geological map of the southern Bighorn Basin, Wyoming. Open File Report - Geological Survey of Wyoming, Report no. 52-1, 1952 1 sheet.

R. J. Weldon, II*, T. E. Fumal, R. J. Powers*, S. K. Pezzopane*, K. M. Scharer* and J. C. Hamilton. CALIFORNIA. Structure and earthquake offsets on the San Andreas Fault at the Wrightwood, California, paleoseismic site. Bulletin of the Seismological Society of America, *in* Paleoseismology of the San Andreas fault system. (L. B. Grant, editor and others). v. 92, no. 7, October 2002. p. 2704-2725.

R. L. Wershaw, E. C. Llaguno* and J. A. Leenheer. Mechanism of formation of humus coatings on mineral surfaces; 3, Composition of adsorbed organic acids from compost leachate on alumina by solid-state ^{13}C NMR. Colloids and Surfaces. A. Physicochemical and Engineering Aspects. 108, 1996. p. 213-223.

R. L. Wershaw, E. C. Llaguno*, J. A. Leenheer, R. P. Sperline* and Y. Song*. Mechanism of formation of humus coatings on mineral surfaces; 2, Attenuated total reflectance spectra of hydrophobic and hydrophilic fractions of organic acids from compost leachate on alumina. Colloids and Surfaces. A. Physicochemical and Engineering Aspects. 108, 1996. p. 199-211.

R. L. Wheeler and Arthur Frankel. Geology in the 1996 USGS seismic-hazard maps, central and Eastern United States. Seismological Research Letters. v. 71, no. 2, April 2000. p. 273-282.

J. C. Whiton. Growth-rate trends of pines since 1930 in the northeastern United States, *in* Proceedings of the International symposium on Ecological aspects of tree-ring analysis. (G. C. Jacoby, Jr., compiler and others). Report no. CONF-8608144, April 1987. p. 372-381. *Available at:* NTIS, Springfield, VA, United States.

J. G. Wiener. Bioaccumulation of mercury in aquatic food webs, *in* Proceedings and summary report; workshop on the fate, transport, and transformation of mercury in aquatic and terrestrial environments. (U. S. Environmental Protection Agency, National Risk Management Research Laboratory and others). Report no. EPA/625/R-02/005, June 2002. p. 55-57. *Available at:* U. S. Environmental Protection Agency, Washington, DC, United States.

I. J. Winograd. Evidence from uranium-series-dated speleothems for the timing of the penultimate deglaciation of northwestern Europe. Quaternary Research (New York). v. 58, no. 1, July 2002. p. 60-61.

W. J. Wolfe and S. D. Williams. TENNESSEE. Soil gas screening for chlorinated solvents at three contaminated karst sites in Tennessee. Ground Water Monitoring & Remediation. v. 22, no. 4, 2002. p. 91-99.

W. W. Wood, Stephen Stokes* and Julie Rich*. Implications of water supply for indigenous Americans during Holocene aridity phases on the Southern High Plains, USA. Quaternary Research (New York). v. 58, no. 2, September 2002. p. 139-148.

Jeff Wynn and Tim McGinnis*. Two different electrical properties can improve transoceanic cable-route mapping. The Proceedings of the ... International Offshore and Polar Engineering Conference, *in* The proceedings of the Eleventh (2001) international offshore and polar engineering conference. (J. S. Chung, editor and others). 11, Vol. 1, 2001. p. 37-41.

T. M. Yanosky, C. J. Robinove and R. G. Clark. Progress in the image analysis of tree rings, *in* Proceedings of the International symposium on Ecological aspects of tree-ring analysis. (G. C. Jacoby, Jr., compiler and others). Report no. CONF-8608144, April 1987. p. 658-665. *Available at:* NTIS, Springfield, VA, United States.

ABSTRACTS

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

C. N. Alpers, M. P. Hunerlach, R. L. Hothem, J. T. May*, H. E. Taylor, J. F. DeWild, M. L. Olson and D. P. Krabbenhoft. CALIFORNIA. Mercury and methylmercury in water, sediment, and biota in an area impacted by historical gold mining; the Bear River and

South Yuba River watersheds, California [abstr.], *in* Proceedings and summary report; workshop on the fate, transport, and transformation of mercury in aquatic and terrestrial environments. (U. S. Environmental Protection Agency, National Risk Management Research Laboratory and others). Report no. EPA/625/R-02/005, June 2002. p. C2-C3. *Available at:* U. S. Environmental Protection Agency, Washington, DC, United States.

D. J. Andrews. How complete was stress drop in the Chi-Chi, Taiwan earthquake? [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 222.

A. W. Ash*, J. F. Hicks*, D. J. Nichols and Mahito Watabe*. Preliminary investigation of a diverse Lower Cretaceous insect fauna from Abdrant Nuru, Ulan Nuur Basin, Gobi Desert, Mongolia [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2001 annual meeting. v. 33, no. 6, November 2001. p. 390.

R. P. Ashley. WASHINGTON, OREGON, CALIFORNIA. Regional metallogeny of the Tertiary Cascades volcanic arc in Washington, Oregon, and Northern California [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 14.

C. R. Bacon. OREGON. Equilibrated granodiorite blocks ejected from Crater Lake Caldera, Oregon; natural examples of progressive partial melting [abstr.] Record - Bureau of Mineral Resources, Geology and Geophysics, *in* Second Hutton symposium on Granites and related rocks. (B. W. Chappell, editor). Report no. 1991/25, September 1991. p. 5.

M. A. Bailey, J. P. Hoffmann and P. A. Ferre*. ARIZONA. Investigation of subsurface temperature variations to quantify infiltration in an ephemeral stream, Tucson, Arizona [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 185.

J. W. Ball, R. L. Runkel and D. K. Nordstrom. COLORADO. A high-flow reactive-transport model of acid mine drainage from Summitville, CO based on a June, 1999 tracer injection experiment [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 192.

S. Bannister*, C. Bryan and H. M. Bibby*. Deep structure of the Taupo volcanic zone, from receiver function inversion [abstr.] Geological Society of New Zealand Miscellaneous Publication, *in* Geological Society of New Zealand and New Zealand Geophysical Society joint annual conference; programme and abstracts. (T. Little, editor). Report no. 108A, 2000. p. 7.

W. A. Barnhardt, R. E. Kayen, S. Ashford* and K. Rollins*. CALIFORNIA. Blast-induced liquefaction and determination of soil-density changes with ground-penetrating radar, Treasure Island, CA [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 248.

J. L. Barringer and Zoltan Szabo. NEW JERSEY. Distribution of mercury in shallow ground water of the New Jersey coastal plain and a possible mechanism of transport [abstr.], *in* Proceedings and summary report; workshop on the fate, transport, and transformation of mercury in aquatic and terrestrial environments. (U. S. Environmental Protection Agency, National Risk Management Research Laboratory and others). Report no. EPA/625/R-02/005, June 2002. p. C6. *Available at:* U. S. Environmental Protection Agency, Washington, DC, United States.

C. C. Barton. Fractals, chaos, nonlinear dynamics, and complexity in the earth sciences [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 238.

D. S. Bass*, W. M. Calvin, D. A. Paige* and R. V. Morris*. A new spectral analog for the dark regions of Mars [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1994 fall meeting. v. 75, no. 44, Suppl. November 5, 1994. p. 405-406.

R. L. Baum, E. L. Harp, Jonathan McKenna, S. R. McMullen*, J. D. Kibler and Elizabeth Barnett*. WASHINGTON. Application of near-real-time monitoring to study of coastal bluff instability, Snohomish County, Washington [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 23.

G. W. Bawden, W. R. Thatcher, K. W. Hudnut, C. W. Wicks, R. S. Stein and G. Peltzer*. CALIFORNIA. INSAR measured surface deformation in the Los Angeles Basin, California [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 254.

M. A. Becker*, J. A. Chamberlain, Jr.* and P. W. Stoffer. Pathologic tooth deformities in Late Cretaceous chondrichthyans; a consequence of feeding related injury [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 4.

Yehuda Ben-Zion*, D. A. Okaya*, Zhigang Peng*, A. J. Michael, Leonardo Seeber* and J. G. Armbruster*. Initial results from waveform inversion of seismic fault zone waves in the Karadere-Duzce branch of the North Anatolian Fault [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 222.

K. R. Berryman*, J. Zachariasen*, C. Prentice, P. Villamor*, R. Langridge, M. W. Stirling* and M. Rymer. Late Holocene rupture history of the Wairau Fault [abstr.] Geological Society of New Zealand Miscellaneous Publication, *in* Geological Society of New Zealand and New Zealand Geophysical Society joint annual conference; programme and abstracts. (T. Little, editor). Report no. 108A, 2000. p. 13.

F. P. Bierlein* and R. J. Goldfarb. Accretionary tectonics and metallogeny of SE Australia and NW North America; a comparison of styles and mineral deposit type distribution [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 13-14.

R. W. Blair*, D. B. Yager and S. E. Church. COLORADO. Surficial geologic mapping and sediment geochemistry used to document pre- and post-mining conditions, Animas River valley, Colorado [abstr.] Abstracts with Programs - Geological Society of America,

in Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 50.

R. J. Blakely, I. P. Madin*, W. J. Stephenson and Thomas Popowski*. OREGON. The Canby-Molalla Fault, Oregon [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 107.

R. J. Blakely, R. E. Wells, C. S. Weaver, K. L. Meagher and Ruth Ludwin*. The bump and grind of Cascadia forearc blocks; evidence from gravity and magnetic anomalies [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 33.

D. M. Boore, J. F. Gibbs, W. B. Joyner, H. P. Liu and L. T. Brown*. Imaging of near-surface compressional- and shear-wave velocities and attenuation using downhole seismic profiling [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 231.

R. D. Borcherdt and T. E. Fumal. Empirical evidence from the Northridge earthquake for amplitude-dependent amplification factors used in U. S. building codes [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 243.

Carl Bowser* and Blair Jones. ARIZONA, WISCONSIN. Mass balance analysis of silicate weathering in contrasting shallow groundwater flow systems in Arizona and Wisconsin [abstr.] Abstracts Volume - International Symposium on the Geochemistry of the Earth's Surface (GES), *in* Sixth international symposium on the Geochemistry of the Earth's surface. 6, 2002. p. 5-6.

D. C. Bradley and D. L. Leach. Foreland basins and sedimentary-rock-hosted ore deposits [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 12.

G. N. Breit, A. L. Foster, R. F. Sanzolone, J. C. Yount, J. Whitney, A. H. Welch, Khairul Islam* and Nazrul Islam*. Arsenic cycling in eastern Bangladesh; the role of phyllosilicates [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 192.

D. A. Brew. ALASKA. Origin and distribution of granitic rocks in the Coast plutonic-metamorphic complex, northern Canadian-Alaskan Cordillera, southeastern Alaska, U.S.A. [abstr.] Record - Bureau of Mineral Resources, Geology and Geophysics, *in* Second Hutton symposium on Granites and related rocks. (B. W. Chappell, editor). Report no. 1991/25, September 1991. p. 14.

D. A. Brew, K. E. Tellier, M. A. Lanphere, D. C. Nielsen, J. G. Smith and R. A. Sonnevil. ALASKA. Superposed magmatic belts in the Glacier Bay National Park region, Southeastern Alaska; a preliminary report on geology and potassium-argon ages of intrusive rocks [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 100.

P. H. Briggs and M. L. Tuttle. COLORADO, NEW MEXICO. Investigating the forms of sulfur in historic mine-waste piles from Colorado and New Mexico [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 180.

T. M. Brocher, Tom Parsons and R. J. Blakely. WASHINGTON. A simple algorithm for sequentially incorporating gravity to enhance seismic traveltime tomography; application to the upper-crustal structure in Puget Lowland, Washington [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 32.

G. E. Brown, Jr.*, C. S. Kim*, Samuel Shaw*, G. V. Lowry*, J. J. Rytuba and M. S. Gustin*. Processes controlling the chemical/isotopic speciation and distribution of mercury from contaminated mine sites [abstr.], *in* Proceedings and summary report; workshop on the fate, transport, and transformation of mercury in aquatic and terrestrial environments. (U. S. Environmental Protection Agency, National Risk Management Research Laboratory and others). Report no. EPA/625/R-02/005, June 2002. p. B25. *Available at:* U. S. Environmental Protection Agency, Washington, DC, United States.

L. T. Brown*, K. H. Stokoe, II* and D. M. Boore. Utility of the spectral analysis of surface waves (SASW) method for determining near-surface shear-wave velocities at strong-motion sites [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 248.

K. Bruce Jones*, A. C. Neale*, M. S. Nash*, R. D. van Remortel*, J. D. Wickham*, K. H. Riitters and R. V. O'Neill*. Analyzing the consequences of environmental spatial patterns on environmental resources; the use of landscape metrics generated from remote sensing data [abstr.] International Geological Congress, Abstracts = Congrès Géologique International, Résumés, *in* Brazil 2000; 31st international geological congress; abstracts volume. 31, August 2000.

W. G. Brumbaugh, D. P. Krabbenhoft, D. R. Helsel and J. G. Wiener*. USGS national pilot study of mercury contamination of aquatic ecosystems along multiple gradients; bioaccumulation in fish [abstr.], *in* Proceedings and summary report; workshop on the fate, transport, and transformation of mercury in aquatic and terrestrial environments. (U. S. Environmental Protection Agency, National Risk Management Research Laboratory and others). Report no. EPA/625/R-02/005, June 2002. p. B12. *Available at:* U. S. Environmental Protection Agency, Washington, DC, United States.

D. C. Buesch, S. C. Beason*, R. C. Lung* and G. L. Eatman*. NEVADA. Methods of documenting variability in lithostratigraphic features, fractures, and properties in the Topopah Spring Tuff at Yucca Mountain, Nevada [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 59.

W. C. Burton, L. N. Plummer and B. D. Lindsey. PENNSYLVANIA. Bedrock fracture network of the East Mahantango Creek watershed, PA, and its role in controlling ground-water flow [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 8.

N. A. Buster, C. D. Reich, C. W. Holmes, E. A. Shinn and T. D. Hickey. Carbonate storm deposits and varve-like sediments within

the Great Blue Hole on Lighthouse Reef Atoll, Belize, Central America [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 14.

Andrew Calvert and Wes Hildreth. Radiometric dating of Three Sisters volcanic field [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 90.

R. D. Catchings, M. J. Rymer, M. R. Goldman and G. Gandhok. CALIFORNIA. Subsurface structure of the Banning fault zone in San Gorgonio Pass, Southern California from high resolution seismic imaging [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 214.

Ann Chalmers and D. P. Krabbenhoft. Mercury distribution along an urban gradient in New England streams [abstr.], *in* Proceedings and summary report; workshop on the fate, transport, and transformation of mercury in aquatic and terrestrial environments. (U. S. Environmental Protection Agency, National Risk Management Research Laboratory and others). Report no. EPA/625/R-02/005, June 2002. p. C9. *Available at:* U. S. Environmental Protection Agency, Washington, DC, United States.

D. E. Champion, J. M. Donnelly-Nolan and M. A. Lanphere. Mapping Newberry Volcano's extensive north flank basalts [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 83.

R. L. Christiansen and D. R. Lageson*. A lithospheric-interaction model for the Yellowstone and Newberry melting anomalies [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 37.

F. C. Chuang, R. C. Jachens, C. M. Wentworth and E. A. Sanger. CALIFORNIA. Young strike-slip basin on the Calaveras Fault in San Felipe Valley, California [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 99.

J. A. Coe, W. L. Ellis, J. W. Godt, W. Z. Savage, J. E. Savage*, J. A. Michael, J. D. Kibler, P. S. Powers, D. J. Lidke and Sylvain Debray*. Seasonal movement of the Slumgullion Landslide determined from Global Positioning System surveys and field instrumentation [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 48.

D. A. Cohen. INDIANA. Hydrogeologic framework of the Indiana Dunes National Lakeshore [abstr.], *in* First Indiana dunes research conference on Indiana dunes; a century of scientific inquiry.. U. S. Department of the Interior, 1986. p. 5.

Jim Cole, B. D. Stone and P. L. Williams. NEW MEXICO. Geology and landscape record late Cenozoic history of Rio Grande Rift near Albuquerque, New Mexico [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 30.

T. D. Conlon and K. K. Lee. OREGON. Comparison of methods to estimate seepage between streams and ground water, Willamette Valley, Oregon [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 111.

R. M. Conrey*, E. M. Taylor*, D. R. Sherrod, J. M. Donnelly-Nolan and T. D. Bullen. OREGON. Desert Spring Tuff, central Oregon Cascade Range; new perspectives on source, genesis, and hazards [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 92.

Jim Constantz, Lisa Sarma, Richard Niswonger and James Jasperse*. CALIFORNIA. Monitoring sediment temperature to evaluate the performance of an artificial recharge basin along the Russian River, Sonoma County, CA [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 184.

C. H. Cramer, N. A. Abrahamson* and M. D. Petersen. Is the uncertainty in estimates from fault dimensions aleatory or epistemic and are probabilistic seismic hazard estimates too high? [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 264.

C. H. Cramer and A. D. Frankel. Toward a consensus probabilistic seismic hazard model for the New Madrid seismic zone [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 263.

Edward Cranswick, Mark Meremonte, Erdal Safak, Dee Overture, A. D. Frankel, Oguz Ozel* and Mustafa Erdik*. Damage, site response, and building response in Avcilar, west of Istanbul, Turkey [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 222-223.

K. J. Cunningham, J. L. Carlson* and N. F. Hurley*. FLORIDA. New method for quantification of vuggy porosity from digital optical borehole images as applied to Cenozoic carbonates of the Biscayne Aquifer and Floridan Aquifer system, southern Florida [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 26.

K. J. Cunningham and L. S. Collins*. Relation between paleoceanographic circulation into the western paleo-Mediterranean Sea and facies of an upper Miocene carbonate ramp and platform, Melilla Basin, NE Morocco [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 16.

W. C. Day, G. B. Sidder*, R. O. Rye, L. M. Nuelle* and E. B. Kisvarsanyi*. The Middle Proterozoic rhyolite-hosted Pea Ridge iron and rare-earth-element deposit; a magmatic source for Olympic Dam-type deposits in the midcontinent region of the United States [abstr.] Record - Bureau of Mineral Resources, Geology and Geophysics, *in* Second Hutton symposium on Granites and related rocks. (B. W. Chappell, editor). Report no. 1991/25, September 1991. p. 30.

R. F. De Sawal. Semiautomated water feature extraction using single band images for digital line graph production [abstr.], *in* Proceedings; Mapping and remote sensing tools for the 21st century; con-

ference and exposition with feature emphasis on public/private interaction. (C. W. Greve, prefacer). (American Society for Photogrammetry and Remote Sensing). Bethesda, MD: American Society for Photogrammetry and Remote Sensing, 1994. p. 187.

J. W. Dewey, D. J. Wald and L. A. Dengler*. Relating conventional USGS modified-Mercalli intensities to intensities assigned with data collected via the Internet [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 264.

S. F. Diehl, K. S. Smith, G. A. Desborough, W. W. White* and K. A. Lapakko*. Microstructural and mineralogic controls on the release of trace elements and acid; solid-phase analyses of mine wastes from humidity cell tests [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 50-51.

J. M. Donnelly-Nolan. CALIFORNIA. Tectonic implications of geologic mapping, Medicine Lake Volcano and vicinity, Northern California [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 105.

D. S. Dreger*, H. Tkalcic* and M. Johnston. CALIFORNIA. Evidence of coseismic volumetric expansion in the Long Valley, CA [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 250.

Carolyn Driedger and Ted Stout*. Geohazards interpretation at Mount Rainier National Park; a collaborative approach by the National Park Service and the U. S. Geological Survey [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 20.

N. M. Dubrovsky, J. L. Domagalski, J. M. Gronberg, C. R. Kratzer, K. M. Kuivila and S. Y. Panshin. CALIFORNIA. Pesticide occurrence as a function of land use, application, and hydrology, San Joaquin River, California [abstr.] Abstracts - Annual Meeting - Society of Environmental Toxicology and Chemistry (SETAC), *in* SETAC 17th annual meeting; abstract book. 17, 1996. p. 69.

C. B. DuRoss*, R. J. Blakely and R. E. Wells. OREGON. Geologic cross sections through the Roseburg 30′×60′ quadrangle, Oregon; new constraints from potential field modeling [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 32.

J. F. Ebel* and D. J. Wald. A Bayesian approach to estimating peak ground accelerations from MMI data [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 221.

D. D. Eberl and H. E. Taylor. Is calcite dissolving in the Yukon River system? [abstr.] Abstracts Volume - International Symposium on the Geochemistry of the Earth's Surface (GES), *in* Sixth international symposium on the Geochemistry of the Earth's surface. 6, 2002. p. 115-118.

T. Elias and A. J. Sutton. HAWAII. Volcanic air pollution in our backyard; gas advisory system helps alert people of Hawaii [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 11.

K. M. Ellett and A. L. Flint. Methods for assessing artificial and natural recharge in a deep unsaturated zone system [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 183.

W. L. Ellis, J. D. Kibler, J. P. McKenna and R. L. Stokes*. Near real-time landslide monitoring using cellular telephone telemetry; some recent experiences [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 49.

W. L. Ellsworth, S. H. Hickman and M. D. Zoback*. Seismology in the source; the San Andreas Fault Observatory at Depth (SAFOD) [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 252.

Poul Emsbo. Metallogeny of Phanerozoic intracratonic rift basins [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 13.

J. B. Epstein. DELAWARE. Geologic research in Delaware Water Gap National Recreation Area, a National Park Service (NPS)-U.S. Geological Survey (USGS) partnership [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 15-16.

N. H. Euliss, T. C. Winter, D. O. Rosenberry, J. W. LaBaugh and R. D. Nelson*. The wetland continuum in the prairie pothole region [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 57.

W. C. Evans, S. E. Ingebritsen, C. W. Wicks, R. H. Mariner, B. M. Kennedy* and M. C. van Soest*. OREGON. Magma intrusion rate in the Three Sisters area of the central Oregon Cascades inferred by different methods [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 91.

R. C. Evarts, J. T. Hagstrum, R. J. Blakely, R. J. Fleck, J. L. Block and P. A. Dinterman. Complex right-lateral faulting at the northern end of the Portland Basin; geologic, aeromagnetic, and paleomagnetic evidence [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 33.

J. Fan*, D. Wolock and G. Lawrence. NEW YORK. Using GIS to study the spatial relation between watershed topography and stream chemistry in the Neversink River basin, New York [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1994 spring meeting. v. 75, no. 16, Suppl. 1994.

Weihong Fan*, C. M. Epstein*, Peter Morris*, J. H. Oden and Zoltan Szabo. NEW JERSEY. Method to improve contributing-area delineations used to assess relations among land use, radionuclide concentrations, and water quality in unconfined public-supply wells in New Jersey [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeast-

ern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 16.

Efrat Farber*, Avner Vengosh*, Uri Shavit*, Ran Holtzman*, Michal Segal*, Ittai Gavrieli*, Elias Salameh*, Raed Daoud*, Amer Marie* and Tom Bullen. Exploring the sources of the salinity in the lower Jordan River [abstr.] Abstracts Volume - International Symposium on the Geochemistry of the Earth's Surface (GES), *in* Sixth international symposium on the Geochemistry of the Earth's surface. 6, 2002. p. 153-155.

J. E. Fassett. NEW MEXICO. Dating the extinction of Paleocene Lazarus dinosaurs based on magnetochronology, San Juan Basin, New Mexico [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2001 annual meeting. v. 33, no. 6, November 2001. p. 388.

E. H. Field*, M. D. Petersen and N. A. Abrahamson*. A test of various site-response parameterizations in probabilistic seismic hazard analysis [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 230-231.

J. R. Filson. Advanced National Seismic System; concept and implementation [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 11.

R. J. Fleck, R. C. Evarts, J. T. Hagstrum and M. J. Valentine*. OREGON. The Boring volcanic field of the Portland, Oregon area; geochronology and neotectonic significance [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 33-34.

J. B. Fletcher, J. Boatwright and A. G. Lindh. CALIFORNIA. Wave propagation and site response in the Santa Clara Valley, California [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 244.

A. L. Flint, D. B. Hudson and L. E. Flint. NEVADA. Characterizing unsaturated hydraulic properties of fractures in welded volcanic tuffs at Yucca Mountain, Nevada [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 59.

L. E. Flint, A. L. Flint and J. S. Selker*. NEVADA. Influence of transitional volcanic strata on lateral diversion at Yucca Mountain, Nevada [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 58-59.

M. J. Focazio, Zoltan Szabo, V. T. Depaul, T. F. Kraemer and A. H. Mullin. National occurrence of Ra-224 [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 18.

A. D. Frankel, D. L. Carver, S. C. Harmsen, Edward Cranswick, W. T. Bice, R. W. Sell and J. B. Fletcher. CALIFORNIA. Basin ground motions recorded by a dense seismic array in San Jose, California; observations and modeling [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 244.

W. O. Freeman. Hudson River basin National Water-Quality Assessment plans [abstr.], *in* AWRA Middle Atlantic District symposium; Challenges for the river basins of the Middle Atlantic region; abstracts.. American Water Resources Association, 1991 unpaginated.

G. S. Fuis, E. E. Criley, J. M. Murphy, J. T. Perron, A. Yong, M. L. Benthien*, S. A. Baher*, R. W. Clayton*, P. M. Davis*, N. J. Godfrey*, T. L. Henyey*, M. D. Kohler*, J. K. McRaney*, D. A. Okaya*, G. Simila*, G. R. Keller*, C. Prodehl*, T. Ryberg*, H. Thybo* and U. S. Ten Brink. The Los Angeles Region Seismic Experiment, Phase II (LARSE II); a survey to identify major faults and seismic hazards beneath a large urban region [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 214-215.

L. Gaddis, A. S. McEwen, T. Becker and E. Lee. Recalibration of Galileo EMI SSI data for the Moon [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1994 fall meeting. v. 75, no. 44, Suppl. November 5, 1994. p. 399.

S. P. Gaffney*, J. L. White* and W. L. Ellis. COLORADO. Instrumentation of the DeBeque Canyon landslide at Interstate 70 in west central Colorado [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 48.

M. W. Gannett. OREGON. Neogene sedimentation in the Willamette Valley, Oregon [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 103-104.

M. N. Garcia. Geology in the national parks; a USGS/NPS partnership [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 19.

C. A. Gardner and W. E. Scott. OREGON. The Mount Bachelor volcanic chain; a model for future mafic eruptions in the central Oregon High Cascades [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 92.

E. L. Geist and S. L. Bilek*. Effect of depth dependent shear modulus on tsunami generation [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 227.

Guy Gelfenbaum, J. V. Gardner, E. J. van den Ameele*, Walter Barnhardt*, H. J. Lee and S. P. Palmer*. Assessing damage on the major submarine deltas of southern Puget Sound after the 2001 Nisqually earthquake using high-resolution seafloor multibeam mapping [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 111.

T. M. Gerlach, K. A. McGee and M. P. Doukas. OREGON. CO_2 and H_2S in the air over the ground-swelling area west of South Sister Volcano, central Oregon Cascade Range [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 91.

Sarah Gerould. USGS/USEPA mercury roundtable; enhancing interagency collaborations [abstr.], *in* Proceedings and summary report; workshop on the fate, transport, and transformation of mercury in aquatic and terrestrial environments. (U. S. Environmental Protection Agency, National Risk Management Research Laboratory and others). Report no. EPA/625/R-02/005, June 2002. p. 6-7. *Available at:* U. S. Environmental Protection Agency, Washington, DC, United States.

J. M. G. Glen, J. M. Schmidt, S. W. Nelson and R. L. Morin. ALASKA. Gravity and magnetic studies of the Talkeetna Mountains and their implications for the Jurassic to Recent evolution of structures and tectonics in Southern Alaska [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 101.

J. W. Godt, R. L. Baum, W. Z. Savage and J. P. McKenna. WASHINGTON. Application of a grid-based transient rainfall infiltration-slope stability model in southwestern Seattle, Washington [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 49.

J. W. Godt, W. Z. Savage and R. L. Baum. A model for spatially and temporally distributed landsliding triggered by rainfall infiltration [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 35.

M. B. Goldhaber, J. R. Hatch, E. Callender, E. R. Irwin, M. L. Tuttle, R. L. Reynolds, R. A. Ayuso, L. Lee, J. M. Morrison, J. N. Grossman, J. B. Atkins, D. D. Black*, H. Zappia, J. C. Pashin*, R. F. Sanzolone, L. F. Ruppert, A. Kolker and R. B. Finkelman. Impact of elevated arsenic in coal on the geochemical landscape of the Eastern U.S. [abstr.] Abstracts Volume - International Symposium on the Geochemistry of the Earth's Surface (GES), *in* Sixth international symposium on the Geochemistry of the Earth's surface. 6, 2002. p. 329-331.

V. J. S. Grauch. NEW MEXICO. Using high-resolution aeromagnetic surveys to map subsurface hyrogeology in sediment-filled basins; a case study over Rio Grande Rift central New Mexico USA [abstr.] Preview, *in* Australian Society of Exploration Geophysicists 15th geophysical conference and exhibition; conference handbook; ASEG 2001, Geophysical odyssey. 93, August 2001. p. 81.

V. J. S. Grauch and C. S. Johnston. Gradient window method; a simple way to separate regional from local horizontal gradients in gridded potential-field data [abstr.] SEG Annual Meeting Expanded Technical Program Abstracts with Biographies, *in* Society of Exploration Geophysicists, international exposition and 72nd annual meeting; technical program, expanded abstracts with authors' biographies. 72, 2002. p. 762-765.

Julie Griswold* and R. M. Iverson. Inundation-area statistics and mobility equations for debris flows and rock avalanches [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 35.

L. C. S. Gundersen. A backarc basin setting for a portion of the Proterozoic Reading Prong [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 22.

L. C. S. Gundersen, N. H. Harley*, C. T. Hess*, P. K. Hopke*, T. E. McKone* and R. G. Sextro*. Geologic and climatic controls on the variability and distribution of radon in soil, water, air and indoors in the United States [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 21-22.

M. S. Gustin*, Mark Coolbaugh*, Mark Engle*, Brian Fitzgerald*, S. E. Lindberg*, David Nacht*, J. J. Rytuba and Richard Zehner*. Putting into perspective mercury emissions from geologic sources [abstr.], *in* Proceedings and summary report; workshop on the fate, transport, and transformation of mercury in aquatic and terrestrial environments. (U. S. Environmental Protection Agency, National Risk Management Research Laboratory and others). Report no. EPA/625/R-02/005, June 2002. p. B7. *Available at:* U. S. Environmental Protection Agency, Washington, DC, United States.

J. T. Hagstrum. Was the Cretaceous-Tertiary transition initiated by a large bolide impact in the proto-Pacific Ocean prior to that near Chicxulub on the Yucatán Peninsula? [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 42.

C. A. Hallam. Uses of digital elevation data in the analysis of land use [abstr.] Papers and Proceedings of Applied Geography Conferences, *in* Applied geography conference IV. (J. W. Frazier, editor and others). 4, 1981. p. 435.

T. L. Haluska and J. E. O'Connor. Applications of GIS in geomorphology [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 85.

J. M. Hammarstrom, R. R. Seal, II, A. L. Meier and J. M. Kornfeld*. Secondary sulfate minerals associated with acid drainage in the Eastern U.S.; recycling of metals and acidity in surface environments [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 180.

J. M. Hammarstrom and E-an Zen*. Petrologic characteristics of magmatic epidote-bearing granitoids of the western Cordillera of North America [abstr.] Record - Bureau of Mineral Resources, Geology and Geophysics, *in* Second Hutton symposium on Granites and related rocks. (B. W. Chappell, editor). Report no. 1991/25, September 1991. p. 43.

T. C. Hanks. Imperfect science; uncertainty, diversity, and experts [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 238-239.

K. C. Hanson*, Susan McGeary* and D. E. Krantz. MARYLAND. GPR imaging of coastal Quaternary stratigraphy in the region of Assateague Island, Maryland [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 23.

C. J. Hapke. CALIFORNIA. Sediment yield from coastal landslides based on historical digital terrain modeling; Big Sur, California

[abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 48-49.

D. J. Harding*, S. Y. Johnson and R. A. Haugerud. WASHINGTON. Folding and rupture of an uplifted Holocene marine platform in the Seattle fault zone, Washington, revealed by airborne laser swath mapping [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 107.

R. A. Harris, J. F. Dolan*, R. D. Hartleb* and S. M. Day*. The 1999 Izmit, Turkey earthquake; a test of the dynamic stress transfer model for intraearthquake triggering [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 223.

R. A. Harris and R. W. Simpson. Did the 1999 Hector Mine earthquake occur in the stress shadow of the 1992 Landers earthquake? [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 223.

R. C. Harris*, D. P. Krabbenhoft, C. Pollman*, D. H. Hutchinson*, D. I. Beals*, C. C. Gilmour*, Andrew Heyes*, J. P. Hurley*, S. E. Lindberg*, Mark Marvin-DiPasquale, L. B. Cleckner*, Paul Garrison* and Ted Lange*. FLORIDA. The Everglades mercury cycling model (E-MCM); development and application to two marsh sites in the Florida Everglades [abstr.], *in* Proceedings and summary report; workshop on the fate, transport, and transformation of mercury in aquatic and terrestrial environments. (U. S. Environmental Protection Agency, National Risk Management Research Laboratory and others). Report no. EPA/625/R-02/005, June 2002. p. B48. *Available at:* U. S. Environmental Protection Agency, Washington, DC, United States.

R. W. Harrison, J. R. Palmer*, David Hoffman*, J. D. Vaughn*, C. Wiscombe*, W. J. Stephenson, J. K. Odum, R. A. Williams, S. L. Forman* and J. McGeehin. Neotectonism in the Thebes Gap area, Midcontinent, United States [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1998 spring meeting. v. 79, no. 17, Suppl. April 28, 1998. p. 341.

Jud Harvey. Solute transport processes in contaminated stream-aquifer systems [abstr.], *in* Environmental restoration and UCOWR 1994 annual meeting.. Universities Council on Water Resources, 1994.

R. A. Haugerud. WASHINGTON. High-resolution public-domain topography for western Washington; the Puget Sound Lidar Consortium [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 31.

R. A. Haugerud, R. W. Tabor and J. B. Mahoney*. WASHINGTON. Stratigraphic record of Cretaceous tectonics in the Methow Block, North Cascades, Washington [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 95.

N. W. Hayman*, J. R. Knott*, D. S. Cowan*, E. S. Nemser* and A. M. Sarna-Wojcicki. CALIFORNIA. Quaternary low-angle slip on detachment faults in Death Valley, California [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 87.

V. M. Heilweil and D. K. Solomon*. UTAH. Ponded infiltration experiment to evaluate recharge to the Navajo Sandstone aquifer of southwestern Utah [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 184.

J. R. Herring. IDAHO. Integrated environmental studies of contaminant trace elements in the Meade Peak Phosphatic Shale Member of the Phosphoria Formation and associated ecosystem, southeastern Idaho, geochemical presence and pathways; minerals, mobility, and myopia [abstr.] Abstracts Volume - International Symposium on the Geochemistry of the Earth's Surface (GES), *in* Sixth international symposium on the Geochemistry of the Earth's surface. 6, 2002. p. 337-340.

D. P. Hill. CALIFORNIA. A color code for communicating volcanic hazard information in the Long Valley Caldera-Mono Craters region, eastern California [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 11.

F. R. Hladky*, H. S. Waff* and K. D. Knutson. OREGON. Subsurface geological and geophysical profiles of volcanic strata at the Lorella deep well, Klamath County, Oregon [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 110-111.

J. M. Holloway and R. L. Smith. Biogeochemical transformations influencing release and cycling of nitrogen in shale to stream and ground water [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 191.

S. E. Hough. On the contribution from site response to earthquake hazard in the central and Eastern United States [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 245.

Yueqiang Huang*, Yehuda Ben-Zion* and D. J. Andrews. Dynamic rupture in a model of two different elastic blocks separated by a low velocity layer [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 257.

K. W. Hudnut. GPS in earthquake monitoring networks [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 261.

W. P. Irwin. Correlation of the Klamath Mountains and Sierra Nevada [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 5.

R. M. Iverson. Runout and runup of landslides with ordinary Coulomb friction; added distance due to longitudinal forces [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1998 spring meeting. v. 79, no. 17, Suppl. April 28, 1998. p. 332.

R. C. Jachens, C. M. Wentworth, R. W. Graymer, R. J. McLaughlin and F. C. Chuang. CALIFORNIA. A 40-km-long concealed basin suggests large offset on the Silver Creek Fault, Santa Clara Valley, California [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 99.

A. S. Jayko. Unroofing regional blueschists [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 29-30.

C. Ji*, D. J. Wald and D. V. Helmberger*. CALIFORNIA. Slip history of 1999 Hector Mine, California earthquake [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 224.

D. A. John and A. H. Hofstra. NEVADA. Hydrothermal alteration and stable isotope constraints on formation of the Mule Canyon low-sulfidation Au-Ag deposit, north-central Nevada [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 15.

A. N. Johnson, J. M. Hammarstrom and R. R. Seal, II. Mineralogy and geochemistry of sulfidic mine waste at an abandoned Pb-Zn mine; implications for acid-generating and acid-neutralizing potential [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 181.

J. A. Johnson*, S. R. Brantley, D. A. Swanson, C. A. Gansecki* and J. M. Gale*. Teaching interpreters how to present geologic processes in our national parks [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 19.

P. A. B. Johnson and D. S. Dreger*. Source process times and slip distributions of Parkfield earthquakes M 1 to 5 [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 263.

B. F. Jones. Geochemical evolution of closed basin waters; a review [abstr.] Abstracts Volume - International Symposium on the Geochemistry of the Earth's Surface (GES), *in* Sixth international symposium on the Geochemistry of the Earth's surface. 6, 2002. p. 397.

J. L. Jones. Near-real-time flood inundation mapping pilot project [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 23.

L. M. Jones. CALIFORNIA. Overview of the M_w7.1 Hector Mine, California earthquake of October 16, 1999 [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 205.

M. A. Jones, J. E. O'Connor and T. L. Haluska. WASHINGTON. Channel and floodplain dynamics, Quinault and Queets rivers, Washington [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 88-89.

W. B. Joyner. Strong motion from surface waves in deep sedimentary basins [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 244.

G. D. Kaye* and F. A. Trusdell. HAWAII. Using GIS to estimate the total volume of Mauna Loa Volcano, Hawaii [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 85.

R. E. Kayen and R. Ozaki*. Seismic shear deformation of compliant fine-grained soil [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 221.

K. S. Kellogg, Bruce Bryant, C. W. Naeser and M. J. Kunk. COLORADO. Structural history of the western Gore Range, Colorado; shears, faults, and uplifts spanning more than 1 billion years [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 233.

Carol Kendall, Bryan Bemis, Scott Wankel, Steve Silva, Cecily Chang, D. P. Krabbenhoft and Jerry Stober*. Spatial and temporal changes in food web structure and biogeochemical reactions in the Everglades [abstr.], *in* Proceedings and summary report; workshop on the fate, transport, and transformation of mercury in aquatic and terrestrial environments. (U. S. Environmental Protection Agency, National Risk Management Research Laboratory and others). Report no. EPA/625/R-02/005, June 2002. p. C21. *Available at:* U. S. Environmental Protection Agency, Washington, DC, United States.

Carol Kendall, Linda Campbell, Ted Lange*, J. P. Hurley*, D. P. Krabbenhoft, Paul Garrison* and Lisa Cleckner*. Effects of temporal and spatial variability in food webs on bioaccumulation of Hg in the Everglades; the combined use of stable isotopes, gut contents, and Hg/MeHg data [abstr.], *in* Proceedings and summary report; workshop on the fate, transport, and transformation of mercury in aquatic and terrestrial environments. (U. S. Environmental Protection Agency, National Risk Management Research Laboratory and others). Report no. EPA/625/R-02/005, June 2002. p. C20. *Available at:* U. S. Environmental Protection Agency, Washington, DC, United States.

C. S. Kim*, Samuel Shaw*, G. V. Lowry*, J. J. Rytuba and G. E. Brown, Jr.*. Determining Hg speciation in natural environmental systems using X-ray absorption fine structure (XAFS) spectroscopy [abstr.], *in* Proceedings and summary report; workshop on the fate, transport, and transformation of mercury in aquatic and terrestrial environments. (U. S. Environmental Protection Agency, National Risk Management Research Laboratory and others). Report no. EPA/625/R-02/005, June 2002. p. C22. *Available at:* U. S. Environmental Protection Agency, Washington, DC, United States.

T. V. V. King, B. R. Berger, L. C. Morath and J. D. Phillips. Utility of high-altitude infrared spectral data in mineral exploration and geoenvironmental investigations [abstr.] Abstracts Volume - International Symposium on the Geochemistry of the Earth's Surface (GES), *in* Sixth international symposium on the Geochemistry of the Earth's surface. 6, 2002. p. 347.

T. V. V. King, B. W. Rockwell and Laurie Morath. A geophysical approach to environmental geochemical analysis [abstr.] Abstracts Volume - International Symposium on the Geochemistry of the Earth's Surface (GES), *in* Sixth international symposium on the Geochemistry of the Earth's surface. 6, 2002. p. 345-346.

D. P. Krabbenhoft, C. C. Gilmour*, W. H. Orem, G. Aiken, M. L. Olson, J. F. DeWild, S. D. Olund, Andrew Heyes*, G. S. Riedel*, J. T. Bell*, H. Lerch, J. M. Benoit* and S. Newman*. Interfacing process-level research and ecosystem-level management questions; aquatic cycling of mercury in the Everglades (ACME) Phase II [abstr.], *in* Proceedings and summary report; workshop on the fate, transport, and transformation of mercury in aquatic and terrestrial environments. (U. S. Environmental Protection Agency, National Risk Management Research Laboratory and others). Report no. EPA/625/R-02/005, June 2002. p. B36-B37. *Available at:* U. S. Environmental Protection Agency, Washington, DC, United States.

M. A. Kulp*, Jim Flocks, Shea Penland* and Jack Kindinger. Louisiana restoration projects; where's the sand? [abstr.] American Water Resources Association Technical Publication Series TPS, *in* Coastal water resources; proceedings. (John Lesnik, R., editor). 02-1, 2002. p. 207.

L. R. Kump*, K. Elliott*, E. M. Griggs* and J. K. Bohlke. FLORIDA. Fate of wastewater-derived nutrients in Florida Keys groundwaters [abstr.] Abstracts Volume - International Symposium on the Geochemistry of the Earth's Surface (GES), *in* Sixth international symposium on the Geochemistry of the Earth's surface. 6, 2002. p. 352-353.

Mark Kurzmack, G. D. LeCain and D. b. Hudson. NEVADA. Relative humidity, pressure, and temperature values from the Ghost Dance Fault, Alcove 7, Yucca Mountain, Nevada [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 59.

K. A. Kvenvolden. Methane hydrate in the global organic carbon cycle; the biogeologic control of methane [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 41.

D. R. Lageson* and R. L. Christiansen. Regional structural controls on the Yellowstone melting anomaly [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 37.

P. J. Lamothe. Allright, so just how do we get all these numbers; the analytical connection [abstr.] Abstracts Volume - International Symposium on the Geochemistry of the Earth's Surface (GES), *in* Sixth international symposium on the Geochemistry of the Earth's surface. 6, 2002. p. 354-356.

E. R. Landa. Soil science and geology; connects, disconnects, and new opportunities in geoscience education [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 14.

Victoria Langenheim, R. C. Jachens, D. M. Morton and J. C. Matti. CALIFORNIA. Basins and plutons along the San Jacinto fault zone, San Bernardino Valley to San Jacinto Valley, Southern California [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 86.

R. M. Langridge* and C. S. Prentice. CALIFORNIA. Mid-Holocene slip rate on the San Andreas Fault near Fort Ross, California [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 228.

M. C. Larsen and G. F. Wieczorek. Debris-flow hazards on alluvial fans; examples from the 1999 Venezuela disaster [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 47.

S. Larson, R. Gilliom, N. Nakagaki and P. Capel. Comparison of terrestrial processing of pesticides in geographically diverse watersheds [abstr.] Abstracts - Annual Meeting - Society of Environmental Toxicology and Chemistry (SETAC), *in* SETAC 17th annual meeting; abstract book. 17, 1996. p. 69.

G. D. LeCain, K. M. Ellett and D. b. Hudson. NEVADA. In situ water-potential values of the nonwelded units of the Paintbrush Group, Yucca Mountain, Nevada [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 59.

R. S. Lewis*, R. F. Burmester*, T. P. Frost and W. C. McClelland*. IDAHO. Newly mapped Eocene strike-slip faults south of the Boehls Butte Anorthosite, northern Idaho [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 84.

J. C. Lin*, F. M. Phillips*, J. L. Rubenstone*, R. F. Anderson*, W. S. Broecker*, G. I. Smith and I. Hajdas*. Late glacial to postglacial abrupt changes in the western Great Basin hydrological system and their global significance [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1994 fall meeting. v. 75, no. 44, Suppl. November 5, 1994. p. 391.

CarrieAnn Lindstadt*, Steve Good* and P. H. Bird. Careers in the earth sciences; an outreach collaboration of the Downingtown School District, West Chester University, and the U. S. Geological Survey [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 31.

G. V. Lowry*, C. S. Kim*, Samuel Shaw*, J. J. Rytuba and G. E. Brown, Jr.*. Physical and chemical properties of Hg-bearing colloids released from New Idria and Sulfur Bank mercury mine tailings [abstr.], *in* Proceedings and summary report; workshop on the fate, transport, and transformation of mercury in aquatic and terrestrial environments. (U. S. Environmental Protection Agency, National Risk Management Research Laboratory and others). Report no. EPA/625/R-02/005, June 2002. p. C40. *Available at:* U. S. Environmental Protection Agency, Washington, DC, United States.

P. Maechling*, P. Small*, K. Hafner*, S. Rajeshuni*, K. Hutton*, J. Polet*, E. Hauksson*, D. Given, A. Walter and L. M. Jones. SCSN/TriNet solutions to common system design issues [abstr.] Seismological Research Letters, *in* Seismological Society of

America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 233.

B. J. Mahler, P. C. Van Metre and Edward Callender. Transport of suspended-sediment associated trace metals in urban runoff [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 193.

J. B. Mahoney*, R. A. Haugerud, R. M. Friedman* and R. W. Tabor. Late Jurassic terrane linkages in the North Cascades; Newby Group is Quesnellia? [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 95.

J. J. Major. The legacy of a chronic hazard; sediment redistribution following explosive eruptions [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 91.

J. J. Major, L. E. Mark, T. C. Pierson and K. R. Spicer. Geomorphic response to widespread, catastrophic disturbance by volcanic eruption [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 46.

K. M. Mandernack*, T. D. Bullen, Kerstin Witte*, Nurgul Balci*, David Emerson* and W. C. Shanks. Iron isotopic analyses of iron oxides produced from abiotic and bacterial Fe(II) oxidation; do δ^{56}Fe values reflect biological origins? [abstr.] Abstracts Volume - International Symposium on the Geochemistry of the Earth's Surface (GES), *in* Sixth international symposium on the Geochemistry of the Earth's surface. 6, 2002. p. 273-275.

B. D. Marshall, L. A. Neymark and J. B. Paces. NEVADA. Estimates of past seepage from calcite distribution in the east-west cross drift, Yucca Mountain, Nevada [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 60.

Mark Marvin-DiPasquale. FLORIDA. Environmental controls on methylmercury production and degradation in Florida Everglades sediment [abstr.], *in* Proceedings and summary report; workshop on the fate, transport, and transformation of mercury in aquatic and terrestrial environments. (U. S. Environmental Protection Agency, National Risk Management Research Laboratory and others). Report no. EPA/625/R-02/005, June 2002. p. B43. *Available at:* U. S. Environmental Protection Agency, Washington, DC, United States.

C. L. May* and R. E. Gresswell. OREGON. Processes and rates of sediment and wood accumulation during the interval between debris flows in headwater streams of the Oregon Coast Range, United States [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 34-35.

J. H. McBride*, R. D. Hatcher* and W. J. Stephenson. Toward a reconciliation of seismic reflection and geological observations across an internal basement massif, Southern Appalachians, USA; Pine Mountain Window [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 21.

K. J. W. McCaffrey*, C. F. Miller*, K. A. Howard, K. E. Karlstrom* and C. Simpson*. CALIFORNIA. Granitoid emplacement and deformation in the Old Woman Mountains, southeastern California [abstr.] Record - Bureau of Mineral Resources, Geology and Geophysics, *in* Second Hutton symposium on Granites and related rocks. (B. W. Chappell, editor). Report no. 1991/25, September 1991. p. 63.

P. A. McCrory. Quaternary crustal faults in the Cascadia Forearc; toward quantifying strain budgets [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 106.

R. R. McDougal, M. R. Cannon, B. D. Smith and D. A. Ruppert*. MONTANA. Hydrogeology of the Boulder River watershed study area, Montana, and examination of regional ground-water flow using interpreted fracture mapping from remote sensing data [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 50.

R. C. McDowell, R. W. Harrison, R. C. Orndorff, J. E. Repetski and D. J. Weary. MISSOURI. Geologic mapping and karst studies on public lands in the Ozarks of southern Missouri; science in the public interest [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 58.

A. S. McEwen, E. M. Robinson, E. M. Eliason, P. G. Lucey*, T. C. Duxbury* and P. D. Spudis*. Clementine observations of the Aristarchus region of the Moon [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1994 fall meeting. v. 75, no. 44, Suppl. November 5, 1994. p. 399.

A. McGarr, J. B. Fletcher and R. A. Harris. Some observations regarding the seismic hazard associated with shallow rupture [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 265.

R. J. McLaughlin, A. M. Sarna-Wojcicki, R. J. Fleck, R. W. Graymer and W. H. Wright*. CALIFORNIA. Kinematic and geochronologic evidence bearing on partitioning of dextral slip between the Rodgers Creek and Maacama faults, Northern California [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 99.

J. M. McNeal, P. G. Schruben, Andrew Grosz, W. L. Newell and J. S. Duval. Predicting the potential occurrence of radium in ground water in the Atlantic Coastal Plain [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 59.

A. J. Meltzner* and D. J. Wald. Aftershocks of the Great 1906 San Francisco earthquake, based on intensity observations [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 238.

M. Meremonte, C. Mueller, A. Frankel, E. Cranswick and D. Overturf. Earthquake ground motions in the central U.S. [abstr.]

Eos, Transactions, American Geophysical Union, *in* AGU 1998 spring meeting. v. 79, no. 17, Suppl. April 28, 1998. p. 341.

A. J. Michael. A genetic algorithm stress inversion method [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 228.

R. E. Mielke*, Gordon Southam and D. K. Nordstrom. WYOMING. Arsenic resistant/oxidizing bacteria in acidic geothermal environments; Yellowstone National Park, Wyoming [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 190.

C. F. Miller*, J. M. Hanchar*, J. L. Wooden, V. C. Bennett*, T. M. Harrison*, D. A. Wark* and D. A. Foster*. Source regions of granitoid plutons; evidence from lower crustal xenoliths and inherited accessory minerals [abstr.] Record - Bureau of Mineral Resources, Geology and Geophysics, *in* Second Hutton symposium on Granites and related rocks. (B. W. Chappell, editor). Report no. 1991/25, September 1991. p. 68.

R. D. Miller*, J. G. Clough*, C. E. Barker and J. C. Davis*. ALASKA. High-resolution seismic reflections to delineate coal beds >350 m deep, with some <3 m thick, under Fort Yukon, Alaska [abstr.] SEG Annual Meeting Expanded Technical Program Abstracts with Biographies, *in* Society of Exploration Geophysicists, international exposition and 72nd annual meeting; technical program, expanded abstracts with authors' biographies. 72, 2002. p. 1488-1491.

R. H. Moench, J. N. Aleinikoff and E. L. Boudette*. MAINE. Revised Early Ordovician age for the ophiolitic Jim Pond Formation, NW Maine; tectonic history reappraised [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 60.

D. E. Moore, D. A. Lockner, Hidemi Tanaka* and Kengo Iwata*. Mapping the coefficient of friction of the serpentine mineral chrysotile relative to effective normal stress and temperature [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 22.

D. Moore, D. A. Lockner, H. Ito* and R. Ikeda*. Microstructural observations of damage-zone core samples from the Nojima Fault, Japan [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 230.

J. G. Moore and D. A. Clague*. HAWAII. The growing promise of Mn-Fe oxide crusts for estimating age of submarine lava, Hawaii [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 3.

R. B. Moore, E. L. Boudette* and D. S. Chase*. NEW HAMPSHIRE. Relation of radon in ground water and air to bedrock geology of New Hampshire [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 61.

B. M. Myers, W. E. Scott, C. A. Gardner, S. P. Schilling, C. R. Bacon, D. S. Sherrod and J. S. Walder. OREGON. Volcano hazard assessments of Oregon volcanoes [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 105.

C. A. Neal. Volcano hazard monitoring and ash warnings in the North Pacific; an evolving, multi-agency, international collaboration [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 11.

C. H. Nelson*, Carlota Escutia*, David Twichell, Chris Goldfinger*, Marc DeBatist* and W. R. Bryant*. Case histories of modern depositional systems that link shallow to deep-water sedimentary environments [abstr.] Annual Meeting Expanded Abstracts - American Association of Petroleum Geologists, *in* American Association of Petroleum Geologists 2001 annual meeting. 2001, June 2001. p. 143.

T. M. Niemi*, Hongwei Zhang*, Shari Generaux*, Tom Fumal and G. G. Seitz*. CALIFORNIA. A 2500-year record of earthquakes along the northern San Andreas Fault at Vedanta Marsh, Olema, California [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 86.

D. K. Nordstrom, P. L. Verplanck, C. A. Naus and R. B. McCleskey. The Questa baseline and pre-mining ground-water quality investigation; preliminary data [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 51.

W. R. Normark and J. A. Reid. Extensive turbidite deposits on the Pacific Plate generated by outbursts from glacial Lake Missoula [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 25.

Dag Nummedal* and Edward Clifton. Climate-controlled sedimentary architecture of the paleo-Volga Delta in the South Caspian Basin [abstr.] Annual Meeting Expanded Abstracts - American Association of Petroleum Geologists, *in* American Association of Petroleum Geologists 2001 annual meeting. 2001, June 2001. p. 145.

J. E. O'Connor, A. M. Sarna-Wojcicki, K. C. Wozniak* and M. W. Gannett. OREGON. Quaternary stratigraphic framework for the Willamette Valley, Oregon [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 104.

S. F. Obermeier and W. E. McNulty. VIRGINIA. Paleoliquefaction evidence for seismic quiescence in central Virginia during late and middle Holocene time [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1998 spring meeting. v. 79, no. 17, Suppl. April 28, 1998. p. 342.

J. H. Oden, Zoltan Szabo, C. M. Epstein*, S. I. Myers* and Vincent Pellerito*. NEW JERSEY. Geochemical characteristics as an indicator of vulnerability of water to contamination by naturally occurring radium in New Jersey aquifers [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 62.

J. K. Odum, W. J. Stephenson and R. A. Williams. MISSOURI, ILLINOIS. High-resolution seismic imaging of near-surface faulting across the Commerce geophysical lineament, SE Missouri and SW Illinois [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 249.

K. M. Ogle and J. P. R. Holland. WYOMING. 1990 estimated water use in Wyoming [abstr.] Proceedings of the Annual Meeting - AWRA Wyoming State Section and Wyoming Water Research Center, *in* AWRA Wyoming State section; Sixth annual meeting; proceedings. 6, 1993 unpaginated.

D. Oppenheimer, A. Bittenbinder, B. Bogaert, R. Buland, L. Dietz, R. Hansen*, S. Malone*, C. McCreery*, T. Sokolowski* and C. Weaver. The CREST Project; consolidated reporting of earthquakes and tsunamis [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 11.

J. D. Ortiz*, A. C. Mix* and Steve Hostetler. Comparison of planktic foraminiferal faunas from mid-latitude sediment traps with core top and last glacial maximum faunas [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1994 fall meeting. v. 75, no. 44, Suppl. November 5, 1994. p. 392.

P. J. Oswald, S. W. Nelson* and R. B. Cole*. ALASKA. Geology and geochemistry of Tertiary volcanic rocks in the upper Caribou Creek area, southern Talkeetna Mountains, Alaska; Eocene volcanism in an extensional setting [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 101.

S. E. Owen*, D. C. Agnew*, G. Anderson*, H. Johnson*, K. J. Hurst*, R. Reilinger*, Z. K. Shen* and J. Svarc. Postseismic deformation from the Hector Mine earthquake as measured by survey-mode GPS [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 226.

T. M. Parris and R. C. Burruss. ALASKA. Tectonism, fracturing, and gas generation, Northeast Brooks Range, Alaska [abstr.] Annual Meeting Expanded Abstracts - American Association of Petroleum Geologists, *in* American Association of Petroleum Geologists 2001 annual meeting. 2001, June 2001. p. 151-152.

T. M. Parris and R. C. Burruss. ALASKA. Syntectonic fluid flow and fracturing, eastern Brooks Range, Alaska [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 236.

S. S. Paschke. Approaches to understanding the effects of acid mine drainage on ground-water systems [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 50.

S. S. Paschke and L. R. Arnold. U. S. Geological Survey groundwater investigations in the Denver Basin (1978-2002) [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 54-55.

G. N. Paulachok and R. H. Simmons. DELAWARE. Floods of July 5, 1989, in New Castle County, Delaware [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1990 spring meeting. v. 71, no. 17, Suppl. April 24, 1990. p. 507-508.

I. A. Pecher*, U. S. ten Brink and J. Zhang*. Traveltime inversion of combined OBS and MCS data from the Cascadia margin [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1998 spring meeting. v. 79, no. 17, Suppl. April 28, 1998. p. 351.

S. F. Personius, R. E. Anderson, Koji Okumura, S. A. Mahan and D. A. Hancock. NEVADA. Preliminary paleoseismology of the Santa Rosa Range fault zone, Humboldt County, Nevada [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 27.

G. T. Petro*, B. A. Housen* and Alexander Iriondo. Tectonic significance of paleomagnetism of the Eocene Golden Horn Batholith [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 96.

J. D. Phillips. Designing matched bandpass and azimuthal filters for the separation of potential-field anomalies by source region and source type [abstr.] Preview, *in* Australian Society of Exploration Geophysicists 15th geophysical conference and exhibition; conference handbook; ASEG 2001, Geophysical odyssey. 93, August 2001. p. 77.

J. D. Phillips. Two-step processing for 3D magnetic source locations and structural indices using extended Euler or analytic signal methods [abstr.] SEG Annual Meeting Expanded Technical Program Abstracts with Biographies, *in* Society of Exploration Geophysicists, international exposition and 72nd annual meeting; technical program, expanded abstracts with authors' biographies. 72, 2002. p. 727-730.

P. J. Phillips. Transport rates of nutrients at surface-water sites in the Hudson River basin [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1994 spring meeting. v. 75, no. 16, Suppl. 1994. p. 177.

M. P. Poland, Michael Lisowski and Roland Burgmann*. CALIFORNIA, OREGON. Dextral shear along the eastern California shear zone in Northeast California and southern Oregon [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 36.

L. J. Poppe, V. F. Paskevich, J. C. Hathaway and D. S. Blackwood. X-ray powder diffraction methods on CD-ROM [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2001 annual meeting. v. 33, no. 6, November 2001. p. 383.

C. J. Potter and T. E. Moore. ALASKA. Regional structural framework of the Brooks Range foothills in the southern part of NPRA, Northern Alaska [abstr.] Annual Meeting Expanded Abstracts - American Association of Petroleum Geologists, *in* American Association of Petroleum Geologists 2001 annual meeting. 2001, June 2001. p. 161.

M. H. Pretorius*, M. J. Streck*, P. W. Lipman and M. A. Dungan*. COLORADO. Compositional stratigraphy through a multicyclic, vigorous and diverse caldera center; the San Luis Caldera complex, San Juan volcanic field, Colorado [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of

America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 4.

P. T. Pringle*, J. E. O'Connor, R. L. Schuster, N. D. Reynolds* and A. C. Bourdeau*. Tree-ring analysis of subfossil trees from the Bonneville landslide deposit and the "submerged forest of the Columbia River Gorge" described by Lewis and Clark [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 34.

G. L. Raines, Boyan Brodaric* and R. A. Schweickert*. Semantic generalization of geologic maps for environmental studies [abstr.] International Geological Congress, Abstracts = Congrès Géologique International, Résumés, *in* Brazil 2000; 31st international geological congress; abstracts volume. 31, August 2000.

D. W. Ramsey and J. M. Donnelly-Nolan. CALIFORNIA. Digital geologic map database of Medicine Lake Volcano, California [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 86.

D. W. Rankin and R. D. Tucker*. VERMONT. Monroe Fault truncated by Mesozoic (?) Connecticut Valley rift system at Bradford, VT; relationship to the Piermont Allochthon [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 67.

N. M. Ratcliffe and J. N. Aleinikoff. VERMONT. Silurian age of the Braintree Complex, VT; bearing on the age of the Cram Hill and Shaw Mountain formations [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 68.

M. S. Reichle*, M. D. Petersen, C. H. Cramer*, David Branum*, T. R. Toppozada* and J. E. Davis*. CALIFORNIA. Annualized earthquake loss estimates for California [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 246-247.

M. E. Reid, R. G. LaHusen, J. J. Roering* and D. L. Brien. Monitoring rapid movement in a large landslide [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 49.

J. L. Ridgley, S. M. Condon, T. C. Hester, L. O. Anna, T. Cook, N. S. Fishman, E. L. Rowan and P. G. Lillis. MONTANA. Shallow biogenic gas resources of Montana; a reassessment [abstr.] Annual Meeting Expanded Abstracts - American Association of Petroleum Geologists, *in* American Association of Petroleum Geologists 2001 annual meeting. 2001, June 2001. p. 167.

J. L. Ridgley, C. F. Gilboy*, D. H. McNeil*, S. M. Condon and J. D. Obradovich*. MONTANA. Stratigraphic and structural influences on sites of shallow biogenic gas accumulation in the Upper Cretaceous Belle Fourche and Second White Specks/Greenhorn formations of southern Alberta, southwestern Saskatchewan, and northern Montana [abstr.] Annual Meeting Expanded Abstracts - American Association of Petroleum Geologists, *in* American Association of Petroleum Geologists 2001 annual meeting. 2001, June 2001. p. 167.

W. I. Ridley, P. J. Lamothe and A. E. Koenig. Understanding Earth systems through studies of geochemical microcosms; examples using the laser ablation trace element microprobe [abstr.] Abstracts Volume - International Symposium on the Geochemistry of the Earth's Surface (GES), *in* Sixth international symposium on the Geochemistry of the Earth's surface. 6, 2002. p. 366.

M. S. Robinson and E. M. Shoemaker. Volcanic materials of the Schroedinger Basin; timing and emplacement mechanisms [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1994 fall meeting. v. 75, no. 44, Suppl. November 5, 1994. p. 399.

B. W. Rockwell, C. G. Cunningham, R. O. Rye, M. J. Kunk and T. B. Councell. UTAH. Integrated analyses of mineral zoning and surface geochemistry of Miocene hydrothermal systems and associated mine sites in the Antelope Range, Marysvale volcanic field, Utah [abstr.] Abstracts Volume - International Symposium on the Geochemistry of the Earth's Surface (GES), *in* Sixth international symposium on the Geochemistry of the Earth's surface. 6, 2002. p. 367-368.

S. M. Roeske*, P. J. Haeussler and D. C. Bradley. Location of ridge-trench-trench triple junctions along the northern Cordilleran margin in the Late Cretaceous and early Tertiary; the northern Cordillera perspective [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 102.

R. K. Rogers* and J. M. Schmidt. ALASKA. Metallogeny of the Wrangellia Terrane in the Talkeetna Mountains, Southern Alaska [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 101.

K. R. Rolfhus*, J. P. Hurley*, B. Hall*, D. P. Krabbenhoft and D. Bodaly*. The "reservoir effect"; synthesis and biological uptake of methylmercury in seasonally inundated systems [abstr.], *in* Proceedings and summary report; workshop on the fate, transport, and transformation of mercury in aquatic and terrestrial environments. (U. S. Environmental Protection Agency, National Risk Management Research Laboratory and others). Report no. EPA/625/R-02/005, June 2002. p. C33. *Available at:* U. S. Environmental Protection Agency, Washington, DC, United States.

P. Rona*, R. Sheridan*, J. Robb, J. Trotta* and F. Grassle*. Geological processes on the New Jersey upper continental rise; Deep Water Dumpsite 106 [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 70.

D. O. Rosenberry, J. H. Duff, J. W. LaBaugh, M. M. Reddy, P. F. Schuster, R. G. Striegl, F. J. Triska and T. C. Winter. MINNESOTA. Advection at the sediment-water interface affects the hydrology, geochemistry, and ecology of the Shingobee River watershed, northern Minnesota [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 56.

E. L. Rowan, L. O. Anna, P. G. Lillis, S. M. Condon, T. C. Hester and J. L. Ridgley. MONTANA. Rates of methane migration by diffusion; implications for the age of gas resources in north-central Montana [abstr.] Annual Meeting Expanded Abstracts - American Association of Petroleum Geologists, *in* American Association of

Petroleum Geologists 2001 annual meeting. 2001, June 2001. p. 174.

E. L. Rowan, K. J. Bird, P. H. Nelson and D. O. Hayba. ALASKA. Timing of source-rock maturation along two regional transects in the National Petroleum Reserve, Alaska (NPRA) [abstr.] Annual Meeting Expanded Abstracts - American Association of Petroleum Geologists, *in* American Association of Petroleum Geologists 2001 annual meeting. 2001, June 2001. p. 174.

T. E. Ruble*, M. D. Lewan, R. P. Philp* and C. J. Boreham*. Modeling oil generation in the Green River petroleum system, Uinta Basin; significance of appropriate experimental kinetic parameters [abstr.] Annual Meeting Expanded Abstracts - American Association of Petroleum Geologists, *in* American Association of Petroleum Geologists 2001 annual meeting. 2001, June 2001. p. 174.

J. J. Rytuba, C. S. Kim*, G. V. Lowry*, G. E. Brown, Jr.* and Samuel Shaw*. Release and transport of mercury in watersheds impacted by mercury containing mineral deposits [abstr.], *in* Proceedings and summary report; workshop on the fate, transport, and transformation of mercury in aquatic and terrestrial environments. (U. S. Environmental Protection Agency, National Risk Management Research Laboratory and others). Report no. EPA/625/R-02/005, June 2002. p. C34. *Available at:* U. S. Environmental Protection Agency, Washington, DC, United States.

J. A. Sampson and Louise Pellerin*. ALASKA. A magnetotelluric transect across the Talkeetna Mountains, Alaska [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 101.

E. A. Sanger, J. M. G. Glen, R. L. Morin, J. M. Schmidt and S. W. Nelson. ALASKA. Gravity and magnetic modeling of the Nikolai Greenstone in the Amphitheater Syncline, Mount Hayes Quadrangle, Alaska [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 101-102.

S. P. Schilling, P. E. Carrara, R. A. Thompson and E. Y. Iwatsubo. WASHINGTON. Post-eruption glacier development within the crater of Mount St. Helens, Washington, USA [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 91.

J. M. Schmidt, P. J. Oswald and L. W. Snee. ALASKA. The Deadman and Clark Creek fields; indicators of early Tertiary volcanism in an extensional tectonic environment in the northern Talkeetna Mountains, Alaska [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 101.

W. H. Schulz and W. R. Cotton*. CALIFORNIA. Use of detailed mapping and monitoring of a landslide to permit safe occupation of surrounding residences; an example in San Leandro, California [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 48.

P. F. Schuster, J. B. Shanley and M. M. Reddy. The influence of organic carbon on the mobility of mercury in contrasting ecosystems [abstr.], *in* Proceedings and summary report; workshop on the fate, transport, and transformation of mercury in aquatic and terrestrial environments. (U. S. Environmental Protection Agency, National Risk Management Research Laboratory and others). Report no. EPA/625/R-02/005, June 2002. p. C35-C36. *Available at:* U. S. Environmental Protection Agency, Washington, DC, United States.

R. B. Scott, Bruce Bryant and W. J. Perry, Jr. COLORADO. Neogene deformation related to evaporite dissolution and diapirism along the southwest flank of the White River Uplift, northwestern Colorado [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 233.

W. E. Scott. OREGON. USGS response to ongoing crustal uplift at Three Sisters volcanic center, Oregon [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 91.

C. W. Scrivner*, V. M. Graizer*, A. Shakal*, T. Cao*, E. Hauksson*, J. Polet* and L. M. Jones. CALIFORNIA. TriNet strong-motion data from the M 7.1 Hector Mine, California earthquake; ground motions in the Los Angeles Basin [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 226.

L. A. Senior and R. A. Sloto. PENNSYLVANIA. Radium-224 and its relation to gross-alpha-particle, radium-226, and radium-228 activities in ground water from rocks of the Piedmont physiographic province, southeastern Pennsylvania [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 73.

J. B. Shanley, P. F. Schuster and Timothy Scherbatskoy*. Episodic transport of mercury in streamwater [abstr.], *in* Proceedings and summary report; workshop on the fate, transport, and transformation of mercury in aquatic and terrestrial environments. (U. S. Environmental Protection Agency, National Risk Management Research Laboratory and others). Report no. EPA/625/R-02/005, June 2002. p. C38. *Available at:* U. S. Environmental Protection Agency, Washington, DC, United States.

R. J. Shedlock. INDIANA. Chemistry of ground water at Indiana Dunes National Lakeshore [abstr.], *in* First Indiana dunes research conference on Indiana dunes; a century of scientific inquiry.. U. S. Department of the Interior, 1986. p. 6.

B. L. Sherrod, J. A. Vance* and Estella Leopold*. Fission track ages of Tertiary bedrock in the hanging wall of the Seattle fault zone [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 108.

J. W. Shervais*, B. L. Murchey, D. L. Kimbrough*, P. R. Renne* and B. B. Hanan*. CALIFORNIA. Radiometric and biostratigraphic age relations in the Coast Range Ophiolite (CRO), Northern California; implications for Jurassic tectonic evolution of the western Cordillera [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 22.

S. A. Shimel*, K. G. Troost*, D. B. Booth*, J. M. Fryer* and A. D. Frankel. Geologic controls on site response and ground failures in Seattle during the 2001 Nisqually earthquake [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 112.

E. M. Shoemaker, P. J. Hassig* and D. J. Roddy. Impact plume dynamics on Jupiter [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1994 fall meeting. v. 75, no. 44, Suppl. November 5, 1994. p. 402.

E. M. Shoemaker, M. S. Robinson and E. M. Eliason. Age relations of the Schroedinger multiring basin determined from Clementine images [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1994 fall meeting. v. 75, no. 44, Suppl. November 5, 1994. p. 399.

P. K. Sims. The Mesoproterozoic; a time of change in tectonic style and magma types in the North American continent [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 43.

R. A. Sloto and L. A. Senior. PENNSYLVANIA. Radon-222 activities in the ground water of the Piedmont physiographic province, southeastern Pennsylvania [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 75.

D. B. Smith. Standardized geochemical baselines; the first step toward recognizing, understanding, and quantifying human interaction with the Earth's surface environment [abstr.] Abstracts Volume - International Symposium on the Geochemistry of the Earth's Surface (GES), *in* Sixth international symposium on the Geochemistry of the Earth's surface. 6, 2002. p. 382-383.

L. W. Snee, M. W. Reynolds and D. P. Miggins. MONTANA. Late Cretaceous and Tertiary plutonism, west-central Montana; pins in the end of compression and the beginning of extension [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 43.

L. W. Snee, J. M. Schmidt, P. J. Oswald and E. M. Prueher. ALASKA. Jurassic to early Tertiary plutonic suites of the northern Talkeetna Mountains, Alaska [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 100.

W. J. Stephenson, R. A. Williams, J. K. Odum and T. L. Pratt. High-resolution seismic imaging of fault zones for earthquake hazards [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 231-232.

L. L. Stillings, M. C. Amacher* and J. R. Herring. IDAHO. Selenium transport through a wetland, Caribou National Forest, Southeast Idaho [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 191-192.

P. W. Stoffer, J. A. Chamberlain, Jr.*, D. O. Terry* and Paula Messina*. SOUTH DAKOTA. K/T boundary stratigraphy of the Yellow Mounds in Badlands National Park, South Dakota [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 226.

K. H. Stokoe, II*, J. A. Bay*, B. L. Rosenblad*, L. T. Brown* and D. M. Boore. In situ characterization of geotechnical systems with shear waves [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 232.

G. D. Stricker, R. M. Flores, R. W. Stanton, C. A. Rice, M. S. Ellis, A. M. Ochs*, D. E. McGarry*, F. J. Crockett* and D. P. Stilwell*. WYOMING, MONTANA. Challenges confronting coalbed methane (CBM) development in the Powder River basin, Wyoming and Montana [abstr.] Annual Meeting Expanded Abstracts - American Association of Petroleum Geologists, *in* American Association of Petroleum Geologists 2001 annual meeting. 2001, June 2001. p. 193.

C. S. Swezey. Sequence stratigraphy in eolian systems [abstr.] Annual Meeting Expanded Abstracts - American Association of Petroleum Geologists, *in* American Association of Petroleum Geologists 2001 annual meeting. 2001, June 2001. p. 196.

Zoltan Szabo, V. T. Depaul, T. F. Kraemer and Bahman Parsa*. Radium-224 in ground water and implication for monitoring [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 77.

R. W. Tabor and R. A. Haugerud. WASHINGTON. Geologic map of the North Cascades, Washington; progress report on a compilation [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 31.

M. H. Taylor, U. S. ten Brink and A. Y. Golmshtok*. Crustal structure below Lake Baikal, from coincidental wide-angle seismic refraction and reflection data [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1998 spring meeting. v. 79, no. 17, Suppl. April 28, 1998. p. 337.

U. S. ten Brink, P. C. Molzer and D. A. Okaya*. CALIFORNIA. The thermal structure of California [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1998 spring meeting. v. 79, no. 17, Suppl. April 28, 1998. p. 334.

Shinji Toda* and R. S. Stein. Response of the San Andreas Fault to the 1983 Coalinga-Nunez earthquakes; an application of interaction-based probabilities for Parkfield [abstr.] Journal of Geophysical Research, B, Solid Earth and Planets. v. 107, no. 6, June 10, 2002. 16 p.

R. P. Tollo*, P. C. Hackley* and J. N. Aleinikoff. VIRGINIA. Petrologic evolution of Grenville-age basement, central Blue Ridge, Virginia [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 79.

Joel Trexler* and William Loftus. Bioaccumulation of mercury in the Everglades; patterns in the foodweb [abstr.], *in* Proceedings and summary report; workshop on the fate, transport, and transformation of mercury in aquatic and terrestrial environments. (U. S. Environmental Protection Agency, National Risk Management Research Laboratory and others). Report no. EPA/625/R-02/005,

June 2002. p. B14. *Available at:* U. S. Environmental Protection Agency, Washington, DC, United States.

K. G. Troost*, D. B. Booth*, R. A. Haugerud, R. K. Borden* and Elizabeth Barnett. WASHINGTON. Status and findings from 1:24,000 scale geologic mapping in the Puget Lowland, Washington [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 31.

Christine Turner. Risk in America; an historical perspective, and challenges for the public earth scientist [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 238.

M. Tuttle*, R. Lafferty*, E. Schweig and M. Haynes*. Timing and magnitudes of prehistoric earthquakes in the New Madrid seismic zone and the western lowlands [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1998 spring meeting. v. 79, no. 17, Suppl. April 28, 1998. p. 340.

R. J. Varga*, Elizabeth Myers*, Jason Biga*, Frits Haverkamp*, J. E. Faulds* and Larry Snee. ARIZONA. Paleomagnetic constraints on the stratigraphic and tectonic development of the Black Mtns. accommodation zone in the Grasshopper Junction-western Cerbat Mtn. region, AZ [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2001 annual meeting. v. 33, no. 6, November 2001. p. 392.

D. J. Wald and R. W. Graves*. The effect of 3D Earth structure on resolution of the earthquake rupture process [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 256-257.

D. J. Wald and V. Quitoriano. CALIFORNIA. Community Internet Intensity Maps; examples from California earthquakes [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 267.

L. A. Wald and J. Mori*. Evaluation of methods for estimating linear site response amplifications in the Los Angeles region [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 229.

A. R. Wallace. NEVADA. Formation, preservation, and destruction of Miocene paleosurface-related epithermal deposits, northern Nevada [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 44.

G. J. Walsh. NEW HAMPSHIRE. Geologic controls on remotely sensed lineaments in southeastern New Hampshire [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 81.

R. E. Wells, Richard Blakely and Yuichi Sugiyama*. Great slip in great subduction earthquakes occurs under forearc basins [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 36.

A. F. White. Comparing short and long-term weathering rates in soils [abstr.] Abstracts Volume - International Symposium on the Geochemistry of the Earth's Surface (GES), *in* Sixth international symposium on the Geochemistry of the Earth's surface. 6, 2002. p. 70-71.

C. W. Wicks, Daniel Dzurisin, S. E. Ingebritsen, Wayne Thatcher, Zhong Lu and Justin Iverson*. OREGON. Ongoing magma intrusion beneath the Three Sisters volcanic center, central Oregon Cascade Range, USA, inferred from satellite InSAR [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 90-91.

B. Wiegand*, K. Ziegler*, S. C. Hotchkiss*, O. A. Chadwick*, T. D. Bullen, P. M. Vitousek*, J. L. Wooden* and J. Fitzpatrick. HAWAII. 41 ka dust accumulation in a peat bog, Kohala, Hawaii; local vs. Asian dust sources [abstr.] Abstracts Volume - International Symposium on the Geochemistry of the Earth's Surface (GES), *in* Sixth international symposium on the Geochemistry of the Earth's surface. 6, 2002. p. 99-102.

R. A. Williams, W. J. Stephenson, J. K. Odum and Edward Cranswick. WASHINGTON, UTAH, CALIFORNIA. Correlations of earthquake site amplification with near-surface S-wave velocities in Seattle, Wash., Salt Lake Valley, Utah, and San Fernando Valley, California [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 250.

M. S. Wilson*, T. S. Dyman and V. F. Nuccio. Is there a basin-center gas accumulation in the Upper Cretaceous Forbes Formation in the Sacramento Basin? [abstr.] Annual Meeting Expanded Abstracts - American Association of Petroleum Geologists, *in* American Association of Petroleum Geologists 2001 annual meeting. 2001, June 2001. p. 216-217.

R. P. Wintsch*, J. N. Aleinikoff, M. J. Dorais* and C. M. Fanning*. Chemical and U-Pb isotopic zoning in metamorphic sphenes from the Bronson Hill Terrane reveal three pulses of Alleghanian growth in 50 M.Y. [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 82.

Laurie Wirt, S. E. Church, D. B. Yager and D. J. Bove. COLORADO. Ferricrete deposits-natural analogs of acid mine-drainage processes, upper Animas River watershed, Colorado [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 50.

M. Withers*, A. Bittenbinder, B. Bogaert, R. B. Herrmann* and P. Talwani*. Near real-time data exchange and rapid earthquake information for the central and Eastern U.S. [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 235.

Kerstin Witte*, K. W. Mandernack*, T. D. Bullen, David Emmerson*, Nurgul Balci* and W. C. Shanks. Iron isotope signatures of biotically and abiotically precipitated iron-oxides [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2002 annual meeting. v. 34, no. 6, October 2002. p. 20.

R. W. Witte*, J. B. Epstein and Rab Cika*. DELAWARE. Surficial geologic mapping in Delaware Water Gap National Recreation Area; what is it good for? [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Northeastern Section, 35th annual meeting. v. 32, no. 1, February 2000. p. 82.

D. E. Woodcock*, K. C. Wozniak* and T. D. Conlon. OREGON. Influence of the Willamette silt on ground-water flow in shallow basin-fill sediments of the Willamette Valley, Oregon [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 104.

J. L. Wooden and P. A. Mueller*. A Pb isotopic paradox for granitoids; low-Mu rocks from high-Mu sources [abstr.] Record - Bureau of Mineral Resources, Geology and Geophysics, *in* Second Hutton symposium on Granites and related rocks. (B. W. Chappell, editor). Report no. 1991/25, September 1991. p. 116.

C. B. Worden*, C. W. Scrivner* and D. J. Wald. TriNet ShakeMap; status report [abstr.] Seismological Research Letters, *in* Seismological Society of America 2000; abstracts of the 95th annual meeting. v. 71, no. 2, April 2000. p. 248.

K. C. Wozniak*, Nora Herrera, T. D. Conlon and D. E. Woodcock*. OREGON. Ground-water flow in Columbia River Basalt Group aquifers of the northern Willamette Valley, Oregon [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 98th annual meeting. v. 34, no. 5, April 2002. p. 104.

B. M. Wrege. ARIZONA. Abatement of high arsenic levels in water-supply wells, southern Apache County, Arizona [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1988 spring meeting; abstracts. v. 69, no. 16, April 19, 1988. p. 367.

TOPOGRAPHIC MAPS

The table below shows new and revised topographic maps printed by the USGS from January through March 2003.

Most USGS map series divide the United States into quadrangles bounded by two lines of latitude and two lines of longitude. The 1:24,000-scale series is usually published in 7.5-minute quadrangles. The 1:100,000-scale series is published in 30- by 60-minute quadrangles. The latitude and longitude that make up the map-bounding rectangle are shown in the table, along with the map name, State, scale, date, map type, and stock number (a unique number needed to process an order). Both an old stock number and a new stock number are listed for each map; when ordering, please use the new stock number.

The map type for 1:24,000-scale map revisions will always be a contour (topographic) edition. The 1:100,000-scale map type will be either Surface Management or Minerals Management.

Ordering forms are located at the back of the catalog. State topographic indexes and map lists are free on request. Each State index shows the areas mapped. The map lists group the map names alphabetically by scale and contain ordering information. Map lists are also available online at http://mac.usgs.gov/mac/maplists/index.html. For information on the new USGS initiative, The National Map, please visit http://nationalmap.usgs.gov.

New Stock Number	Old Stock Number	Map Name	Scale	Date	Longitude West / East	Latitude South / North	State	Map Type
35011	TAK0833	CORDOVA B-5, AK	1:63,360	01/01/2000	-1455230 - -1453000	601500 - 603000	AK	Contours
35018	TAK0840	CORDOVA C-4, AK	1:63,360	01/01/2000	-1453000 - -1450730	603000 - 604500	AK	Contours
35020	TAK0842	CORDOVA C-6, AK	1:63,360	01/01/2000	-1461500 - -1455230	603000 - 604500	AK	Contours
35021	TAK0843	CORDOVA C-7, AK	1:63,360	01/01/2000	-1463730 - -1461500	603000 - 604500	AK	Contours
114465		SAINT GEORGE ISLAND EAST, AK (PRIBILOF)	1:25,000	01/01/2001	-1693800 - -1692800	563000 - 563730	AK	Contours
36518	TAK2346	SEWARD A-3, AK	1:63,360	01/01/2000	-1480730 - -1474500	600000 - 601500	AK	Contours
36519	TAK2347	SEWARD A-4, AK	1:63,360	01/01/2000	-1483000 - -1480730	600000 - 601500	AK	Contours
36526	TAK2354	SEWARD B-3, AK	1:63,360	01/01/2000	-1480730 - -1474500	601500 - 603000	AK	Contours
39845	TAR0515	MAGNOLIA, AR	1:24,000	01/01/2000	-931500 - -930730	331500 - 332230	AR	Contours
39849	TAR0519	MALVERN SOUTH, AR	1:24,000	01/01/2000	-925230 - -924500	341500 - 342230	AR	Contours
40592	TAZ0143	BLACK HILLS, AZ	1:24,000	01/01/1996	-1114500 - -1113730	320730 - 321500	AZ	Contours
114164		BLUE RANGE WILDERNESS AND PRIMITIVE AREA	1:48,000	01/01/1998	-1092230 - -1085500	331730 - 334230	AZ	Contours
114165		BLUE RANGE WILDERNESS AND PRIMITIVE AREA	1:48,000	01/01/1998	-1092230 - -1085500	331230 - 334230	AZ	Contours
40624	TAZ0175	BOWIE MTN SOUTH, AZ	1:24,000	01/01/1996	-1093000 - -1092230	320000 - 320730	AZ	Contours
40622	TAZ0173	BOWIE, AZ	1:24,000	01/01/1996	-1093000 - -1092230	321500 - 322230	AZ	Contours
40776	TAZ0328	COCORAQUE BUTTE, AZ	1:24,000	01/01/1996	-1112230 - -1111500	320730 - 321500	AZ	Contours
40782	TAZ0334	COMOBABI, AZ	1:24,000	01/01/1996	-1115230 - -1114500	320000 - 320730	AZ	Contours
40869	TAZ0422	DOS CABEZAS SW, AZ	1:24,000	01/01/1996	-1094500 - -1093730	320000 - 320730	AZ	Contours
41061	TAZ0616	HAIVANA NAKYA, AZ	1:24,000	01/01/1996	-1114500 - -1113730	320000 - 320730	AZ	Contours
41092	TAZ0647	HELVETIA, AZ	1:24,000	01/01/1996	-1105230 - -1104500	314500 - 315230	AZ	Contours
41205	TAZ0760	KO VAYA, AZ	1:24,000	01/01/1996	-1120000 - -1115230	320000 - 320730	AZ	Contours
41213	TAZ0768	LA TORTUGA BUTTE, AZ	1:24,000	01/01/1996	-1113000 - -1112230	320730 - 321500	AZ	Contours
41400	TAZ0956	MOUNT HOPKINS, AZ	1:24,000	01/01/1996	-1110000 - -1105230	313730 - 314500	AZ	Contours
41399	TAZ0955	MT GRAHAM, AZ	1:24,000	01/01/1996	-1095230 - -1094500	323730 - 324500	AZ	Contours
41416	TAZ0972	MT WRIGHTSON, AZ	1:24,000	01/01/1996	-1105230 - -1104500	313730 - 314500	AZ	Contours
41422	TAZ0978	MURPHY PEAK, AZ	1:24,000	01/01/1996	-1111500 - -1110730	313000 - 313730	AZ	Contours
41496	TAZ1052	PAN TAK, AZ	1:24,000	01/01/1996	-1113730 - -1113000	320000 - 320730	AZ	Contours
41507	TAZ1063	PAT HILLS NORTH, AZ	1:24,000	01/01/1996	-1093730 - -1093000	320000 - 320730	AZ	Contours

41613	TAZ1170	RAILROAD PASS, AZ	1:24,000	01/01/1996	-1094500 - -1093730	321500 - 322230	AZ	Contours
42374	TAZ1969	RED BIRD HILLS, AZ	1:24,000	01/01/1996	-1100000 - -1095230	320730 - 321500	AZ	Contours
42428	TAZ2024	SAFFORD, AZ	1:24,000	01/01/1998	-1094500 - -1093730	324500 - 325230	AZ	Contours
41705	TAZ1262	SAN CAYETANO MTS, AZ	1:24,000	01/01/1996	-1110000 - -1105230	313000 - 313730	AZ	Contours
41707	TAZ1264	SAN IGNACIO RANCH, AZ	1:24,000	01/01/1996	-1113730 - -1113000	320730 - 321500	AZ	Contours
41710	TAZ1267	SAN PEDRO, AZ	1:24,000	01/01/1996	-1113000 - -1112230	320000 - 320730	AZ	Contours
41761	TAZ1318	SIERRA BONITA RANCH, AZ	1:24,000	01/01/1996	-1100730 - -1100000	323000 - 323730	AZ	Contours
41774	TAZ1333	SIMMONS PEAK, AZ	1:24,000	01/01/1996	-1094500 - -1093730	320730 - 321500	AZ	Contours
41786	TAZ1345	SONOITA, AZ	1:24,000	01/01/1996	-1104500 - -1103730	313730 - 314500	AZ	Contours
42366	TAZ1961	SQUARE MOUNTAIN, AZ	1:24,000	01/01/1996	-1100000 - -1095230	321500 - 322230	AZ	Contours
42487	TAZ2084	SQUARETOP HILLS EAST, AZ	1:24,000	01/01/1996	-1093730 - -1093000	314500 - 315230	AZ	Contours
42379	TAZ1974	SULPHUR SPRING, AZ	1:24,000	01/01/1996	-1095230 - -1094500	320000 - 320730	AZ	Contours
112870		SYCAMORE CANYON WILDERNESS, AZ	1:23,550	01/01/2002	-1120730 - -1115500	345230 - 350730	AZ	Contours
41890	TAZ1449	THREE POINTS, AZ	1:24,000	01/01/1996	-1112230 - -1111500	320000 - 320730	AZ	Contours
41933	TAZ1492	TUBAC, AZ	1:24,000	01/01/1996	-1110730 - -1110000	313000 - 313730	AZ	Contours
42047	TAZ1607	WILBUR CANYON, AZ	1:24,000	01/01/1996	-1113000 - -1112230	313000 - 313730	AZ	Contours
42369	TAZ1964	WILLCOX NORTH, AZ	1:24,000	01/01/1996	-1095230 - -1094500	321500 - 322230	AZ	Contours
42381	TAZ1976	WILLCOX SOUTH, AZ	1:24,000	01/01/1996	-1095230 - -1094500	320730 - 321500	AZ	Contours
43238	TCA0004	ACOLITA, CA	1:24,000	01/01/1998	-1151500 - -1150730	330000 - 330730	CA	Contours
43637	TCA0415	CERRO COLORADO, CA	1:24,000	01/01/2000	-1210000 - -1205230	363730 - 364500	CA	Contours
43915	TCA0697	DURMID SE, CA	1:24,000	01/01/1998	-1155230 - -1154500	331500 - 332230	CA	Contours
43914	TCA0696	DURMID, CA	1:24,000	01/01/1998	-1155230 - -1154500	332230 - 333000	CA	Contours
44009	TCA0796	FELTON, CA	1:24,000	01/01/1998	-1220730 - -1220000	370000 - 370730	CA	Contours
44056	TCA0843	FRANKLIN POINT, CA	1:24,000	01/01/1998	-1222230 - -1221500	370730 - 371500	CA	Contours
44075	TCA0862	FRINK NW, CA	1:24,000	01/01/1998	-1154500 - -1153730	332230 - 333000	CA	Contours
44331	TCA1119	IRIS WASH, CA	1:24,000	01/01/1998	-1153000 - -1152230	331500 - 332230	CA	Contours
46885	TCA3719	KEYS VIEW, CA	1:24,000	01/01/1998	-1161500 - -1160730	335230 - 340000	CA	Contours
44773	TCA1571	MORONGO VALLEY, CA	1:24,000	01/01/1997	-1163730 - -1163000	340000 - 340730	CA	Contours
46970	TCA3805	OGILBY, CA	1:24,000	01/01/1997	-1145230 - -1144500	324500 - 325230	CA	Contours
44911	TCA1710	OLD WOMAN SPRINGS, CA	1:24,000	01/01/1999	-1164500 - -1163730	342230 - 343000	CA	Contours
44951	TCA1750	ORTIGALITA PEAK NW, CA	1:24,000	01/01/2000	-1210000 - -1205230	365230 - 370000	CA	Contours
45054	TCA1853	PIGEON POINT, CA	1:24,000	01/01/1998	-1223000 - -1222230	370730 - 371500	CA	Contours
46276	TCA3106	SANTA BARBARA, CA	1:100,000	01/01/2002	-1200000 - -1190000	340000 - 343000	CA	Surface Management
45690	TCA2501	TORTUGA, CA	1:24,000	01/01/1998	-1152230 - -1151500	330730 - 331500	CA	Contours
45717	TCA2528	TRUCKHAVEN, CA	1:24,000	01/01/1998	-1160000 - -1155230	331500 - 332230	CA	Contours
45756	TCA2569	UKIAH, CA	1:100,000	01/01/2002	-1240000 - -1230000	390000 - 393000	CA	Surface Management
45854	TCA2668	WESTLEY, CA	1:24,000	01/01/1999	-1211500 - -1210730	373000 - 373730	CA	Contours
47776	TCO0281	CANYON OF LODORE, CO	1:100,000	01/01/2002	-1090000 - -1080000	403000 - 410000	CO	Minerals Management

47777	TCO0282	CANYON OF LODORE, CO	1:100,000	01/01/2002	-1090000 - -1080000	403000 - 410000	CO	Surface Management
48037	TCO0542	DOUGLAS PASS, CO	1:100,000	01/01/2002	-1090000 - -1080000	393000 - 400000	CO	Minerals Management
48038	TCO0543	DOUGLAS PASS, CO	1:100,000	01/01/2002	-1090000 - -1080000	393000 - 400000	CO	Surface Management
113847	I2738	FOSSIL RIDGE GUNNISON CTY, CO GEOLOGIC	NO SCALE	01/01/2002	-1064500 - -1062730	383500 - 384730	CO	Contours
48266	TCO0773	GRAND JUNCTION, CO	1:100,000	01/01/2002	-1090000 - -1080000	390000 - 393000	CO	Minerals Management
48267	TCO0774	GRAND JUNCTION, CO	1:100,000	01/01/2002	-1090000 - -1080000	390000 - 393000	CO	Surface Management
114149	GUNNISON	BASIN PUBLIC LANDS, CO	1:126,720	01/01/2002	-1074500 - -1061500	375230 - 391500	CO	No Contours
49073	TCO1585	RANGELY, CO	1:100,000	01/01/2002	-1090000 - -1080000	400000 - 403000	CO	Minerals Management
49074	TCO1586	RANGELY, CO	1:100,000	01/01/2002	-1090000 - -1080000	400000 - 403000	CO	Surface Management
51124	TFL1058	TROUT RIVER, FL	1:24,000	01/01/1994	-814500 - -813730	302230 - 303000	FL	Contours
51526	TGA0088	BEN HILL, GA	1:24,000	01/01/1999	-843730 - -843000	333730 - 334500	GA	Contours
51615	TGA0179	CAMPBELLTON, GA	1:24,000	01/01/1999	-844500 - -843730	333730 - 334500	GA	Contours
51793	TGA0364	FAIRBURN, GA	1:24,000	01/01/1999	-843730 - -843000	333000 - 333730	GA	Contours
52690	THI0014	HANA, HI	1:24,000	01/01/1992	-1560500 - -1555730	204230 - 205000	HI	Contours
52756	THI0083	KIPAHULU, HI	1:24,000	01/01/1995	-1560500 - -1555730	203500 - 204230	HI	Contours
52770	THI0097	LUALAILUA HILLS, HI	1:24,000	01/01/1995	-1562000 - -1561230	203500 - 204230	HI	Contours
54721	TID0572	HARRIS CREEK SUMMIT, ID	1:24,000	01/01/1998	-1160730 - -1160000	435230 - 440000	ID	Contours
56060	TID1938	TEPEE DRAW, ID	1:24,000	01/01/1997	-1123000 - -1122230	442230 - 443000	ID	Contours
55566	TID1435	TWIN FALLS, ID	1:100,000	01/01/2002	-1150000 - -1140000	423000 - 430000	ID	Surface Management
55860	TID1738	COTTONWOOD CREEK, ID	1:24,000	01/01/1997	-1130730 - -1130000	442230 - 443000	ID MT	Contours
73985	TMT3029	DEADMAN LAKE, MT	1:24,000	01/01/1997	-1125230 - -1124500	442230 - 443000	ID MT	Contours
71609	TMT0581	DEADMAN PASS, MT	1:24,000	01/01/1997	-1131500 - -1130730	444500 - 445230	ID MT	Contours
55885	TID1763	FRITZ PEAK, ID	1:24,000	01/01/1997	-1124500 - -1123730	442230 - 443000	ID MT	Contours
71860	TMT0842	GALLAGHER GULCH, MT	1:24,000	01/01/1997	-1124500 - -1123730	443000 - 443730	ID MT	Contours
54663	TID0514	GOAT MOUNTAIN, ID	1:24,000	01/01/1997	-1133000 - -1132230	444500 - 445230	ID MT	Contours
55894	TID1772	GOLDSTONE MTN, ID	1:24,000	01/01/1997	-1133730 - -1133000	450000 - 450730	ID MT	Contours
74036	TMT3086	GOLDSTONE PASS, MT	1:24,000	01/01/1997	-1133730 - -1133000	450730 - 451500	ID MT	Contours
74058	TMT3113	HIDDEN LAKE BENCH, MT	1:24,000	01/01/1997	-1113730 - -1113000	443730 - 444500	ID MT	Contours
72084	TMT1071	HOMER YOUNGS PEAK, MT	1:24,000	01/01/1997	-1134500 - -1133730	451500 - 452230	ID MT	Contours
72182	TMT1171	JUMBO MOUNTAIN, MT	1:24,000	01/01/1997	-1134500 - -1133730	452230 - 453000	ID MT	Contours

72219	TMT1208	KITTY CREEK, MT	1:24,000	01/01/1997	-1133000 - -1132230	450000 - 450730	ID MT	Contours
72371	TMT1365	LOST TRAIL PASS, MT	1:24,000	01/01/1997	-1140000 - -1135230	453730 - 454500	ID MT	Contours
74330	TMT3431	MORRISON LAKE, MT	1:24,000	01/01/1997	-1130730 - -1130000	443000 - 443730	ID MT	Contours
74125	TMT3189	MOUNT JEFFERSON, MT	1:24,000	01/01/1997	-1113730 - -1113000	443000 - 443730	ID MT	Contours
55994	TID1872	SCOTT PEAK, ID	1:24,000	01/01/1997	-1125230 - -1124500	441500 - 442230	ID MT	Contours
55401	TID1265	SHEWAG LAKE, ID	1:24,000	01/01/1997	-1135230 - -1134500	452230 - 453000	ID MT	Contours
74208	TMT3286	TEPEE MOUNTAIN, MT	1:24,000	01/01/1997	-1130730 - -1130000	443730 - 444500	ID MT	Contours
82053	TNV0153	BULL RUN MOUNTAINS, NV	1:100,000	01/01/2002	-1170000 - -1160000	413000 - 420000	ID NV	Surface Management
57086	TIL0948	ARCOLA, IL	1:24,000	01/01/1998	-882230 - -881500	393730 - 394500	IL	Contours
56297	TIL0149	CHANNAHON, IL	1:24,000	01/01/1999	-881500 - -880730	412230 - 413000	IL	Contours
57061	TIL0923	CHARLESTON NORTH, IL	1:24,000	01/01/1998	-881500 - -880730	393000 - 393730	IL	Contours
57399	TIL1277	EFFINGHAM NORTH, IL	1:24,000	01/01/1998	-883730 - -883000	390730 - 391500	IL	Contours
57401	TIL1279	EFFINGHAM SOUTH, IL	1:24,000	01/01/1998	-883730 - -883000	390000 - 390730	IL	Contours
56396	TIL0249	ELWOOD, IL	1:24,000	01/01/1999	-880730 - -880000	412230 - 413000	IL	Contours
56455	TIL0308	GENEVA, IL	1:24,000	01/01/1998	-882230 - -881500	415230 - 420000	IL	Contours
57364	TIL1240	HAZEL DELL, IL	1:24,000	01/01/1998	-880730 - -880000	390730 - 391500	IL	Contours
57089	TIL0951	HUMBOLDT, IL	1:24,000	01/01/1998	-882230 - -881500	393000 - 393730	IL	Contours
57356	TIL1232	JOHNSTOWN, IL	1:24,000	01/01/1998	-882230 - -881500	391500 - 392230	IL	Contours
57067	TIL0929	KIRKSVILLE, IL	1:24,000	01/01/1999	-884500 - -883730	393000 - 393730	IL	Contours
56602	TIL0458	LOMBARD, IL	1:24,000	01/01/1998	-880730 - -880000	415230 - 420000	IL	Contours
56604	TIL0460	LONG CREEK, IL	1:24,000	01/01/1998	-885230 - -884500	394500 - 395230	IL	Contours
57344	TIL1220	MATTOON EAST, IL	1:24,000	01/01/1998	-882230 - -881500	392230 - 393000	IL	Contours
57348	TIL1224	MATTOON WEST, IL	1:24,000	01/01/1998	-883000 - -882230	392230 - 393000	IL	Contours
56717	TIL0574	NOKOMIS SW, IL	1:24,000	01/01/1998	-893000 - -892230	391500 - 392230	IL	Contours
56752	TIL0609	PALATINE, IL	1:24,000	01/01/1998	-880730 - -880000	420000 - 420730	IL	Contours
56786	TIL0643	PLAINFIELD, IL	1:24,000	01/01/1998	-881500 - -880730	413000 - 413730	IL	Contours
57378	TIL1255	ROSE HILL, IL	1:24,000	01/01/1998	-881500 - -880730	390000 - 390730	IL	Contours
56876	TIL0735	SHELBYVILLE, IL	1:24,000	01/01/1998	-885230 - -884500	392230 - 393000	IL	Contours
57357	TIL1233	TOLEDO, IL	1:24,000	01/01/1998	-881500 - -880730	391500 - 392230	IL	Contours
57349	TIL1225	UNION CENTER, IL	1:24,000	01/01/1998	-880730 - -880000	391500 - 392230	IL	Contours
57351	TIL1227	WESTFIELD WEST, IL	1:24,000	01/01/1998	-880730 - -880000	392230 - 393000	IL	Contours
56504	TIL0357	HEBRON, IL	1:24,000	01/01/1992	-883000 - -882230	422230 - 423000	IL WI	Contours
57820	TIN0261	HINDUSTAN, IN	1:24,000	01/01/1998	-863000 - -862230	391500 - 392230	IN	Contours
61638	TLA0189	DIXON BAY, LA	1:24,000	01/01/1998	-892230 - -891500	290000 - 290730	LA	
61699	TLA0250	FRED, LA	1:24,000	01/01/1998	-910730 - -910000	303730 - 304500	LA	Contours
61740	TLA0291	GRETNA GREEN, LA	1:24,000	01/01/1998	-913000 - -912230	315230 - 320000	LA	Contours
68493	TMO0048	BANNER, MO	1:24,000	01/01/1999	-905230 - -904500	373730 - 374500	MO	Contours
68519	TMO0076	BERRYMAN, MO	1:24,000	01/01/1999	-910730 - -910000	375230 - 380000	MO	Contours

68590	TMO0147	BUNKER, MO	1:24,000	01/01/1999	-911500 - -910730	372230 - 373000	MO	Contours
68616	TMO0173	CAPE FAIR, MO	1:24,000	01/01/1999	-933730 - -933000	363730 - 364500	MO	Contours
68629	TMO0186	CASSVILLE, MO	1:24,000	01/01/1999	-935230 - -934500	363730 - 364500	MO	Contours
68642	TMO0199	CENTERVILLE, MO	1:24,000	01/01/1999	-910000 - -905230	372230 - 373000	MO	Contours
68696	TMO0254	CORRIDON, MO	1:24,000	01/01/1999	-910730 - -910000	372230 - 373000	MO	Contours
68700	TMO0258	COURTOIS, MO	1:24,000	01/01/1999	-910730 - -910000	374500 - 375230	MO	Contours
68722	TMO0281	DAVISVILLE, MO	1:24,000	01/01/1999	-911500 - -910730	374500 - 375230	MO	Contours
68765	TMO0324	EAGLE ROCK, MO	1:24,000	01/01/1999	-935230 - -934500	363000 - 363730	MO	Contours
68772	TMO0331	EDGEHILL, MO	1:24,000	01/01/1999	-910000 - -905230	373000 - 373730	MO	Contours
68875	TMO0434	GOLDEN, MO	1:24,000	01/01/1999	-934500 - -933730	363000 - 363730	MO	Contours
68894	TMO0453	GREELEY, MO	1:24,000	01/01/1999	-911500 - -910730	373000 - 373730	MO	Contours
68975	TMO0536	HOWES MILL SPRING, MO	1:24,000	01/01/1999	-912230 - -911500	373730 - 374500	MO	Contours
68989	TMO0550	HUZZAH, MO	1:24,000	01/01/1999	-911500 - -910730	375230 - 380000	MO	Contours
68993	TMO0554	INDEPENDENCE, MO	1:24,000	01/01/1996	-943000 - -942230	390000 - 390730	MO	Contours
69016	TMO0577	JOHNSON MOUNTAIN, MO	1:24,000	01/01/1999	-910000 - -905230	373730 - 374500	MO	Contours
69069	TMO0631	LAMPE, MO	1:24,000	01/01/1999	-933000 - -932230	363000 - 363730	MO	Contours
69109	TMO0672	LOGGERS LAKE, MO	1:24,000	01/01/1999	-912230 - -911500	372230 - 373000	MO	Contours
69287	TMO0854	OATES, MO	1:24,000	01/01/1999	-910730 - -910000	373000 - 373730	MO	Contours
69310	TMO0877	PALMER, MO	1:24,000	01/01/1999	-910000 - -905230	374500 - 375230	MO	Contours
69395	TMO0964	REEDS SPRING, MO	1:24,000	01/01/1999	-933000 - -932230	363730 - 364500	MO	Contours
69457	TMO1027	SELIGMAN, MO	1:24,000	01/01/1999	-940000 - -935230	363000 - 363730	MO	Contours
69470	TMO1040	SHELL KNOB, MO	1:24,000	01/01/1999	-934500 - -933730	363730 - 364500	MO	Contours
69472	TMO1042	SHIRLEY, MO	1:24,000	01/01/1999	-910000 - -905230	375230 - 380000	MO	Contours
69514	TMO1085	STEELVILLE, MO	1:24,000	01/01/1999	-912230 - -911500	375230 - 380000	MO	Contours
69519	TMO1090	STONE HILL, MO	1:24,000	01/01/1999	-912230 - -911500	373000 - 373730	MO	Contours
69598	TMO1170	VIBURNUM EAST, MO	1:24,000	01/01/1999	-910730 - -910000	373730 - 374500	MO	Contours
69599	TMO1171	VIBURNUM WEST, MO	1:24,000	01/01/1999	-911500 - -910730	373730 - 374500	MO	Contours
69604	TMO1176	VIOLA, MO	1:24,000	01/01/1999	-933730 - -933000	363000 - 363730	MO	Contours
70725	TMS0696	AIREY, MS	1:24,000	01/01/2000	-890730 - -890000	303730 - 304500	MS	Contours
70049	TMS0017	AVERA, MS	1:24,000	01/01/2000	-884500 - -883730	311500 - 312230	MS	Contours
70059	TMS0027	BARLOW, MS	1:24,000	01/01/2000	-904500 - -903730	314500 - 315230	MS	Contours
70071	TMS0039	BEATRICE, MS	1:24,000	01/01/2000	-890000 - -885230	303730 - 304500	MS	Contours
70901	TMS0879	BEWELCOME, MS	1:24,000	01/01/2000	-910000 - -905230	310730 - 311500	MS	Contours
70839	TMS0816	BOND POND, MS	1:24,000	01/01/2000	-890730 - -890000	305230 - 310000	MS	Contours
70836	TMS0813	BOND, MS	1:24,000	01/01/2000	-891500 - -890730	305230 - 310000	MS	Contours
70903	TMS0881	BUDE, MS	1:24,000	01/01/2000	-905230 - -904500	312230 - 313000	MS	Contours
70905	TMS0883	BUSY CORNER, MS	1:24,000	01/01/2000	-905230 - -904500	311500 - 312230	MS	Contours
70728	TMS0699	CARNES, MS	1:24,000	01/01/2000	-892230 - -891500	305230 - 310000	MS	Contours
70122	TMS0091	CASEYVILLE, MS	1:24,000	01/01/2000	-904500 - -903730	313730 - 314500	MS	Contours
70129	TMS0098	CLARA, MS	1:24,000	01/01/2000	-884500 - -883730	313000 - 313730	MS	Contours
70130	TMS0099	CLARK, MS	1:24,000	01/01/2000	-883730 - -883000	311500 - 312230	MS	Contours
70921	TMS0899	CRANFIELD, MS	1:24,000	01/01/2000	-911500 - -910730	313000 - 313730	MS	Contours
70925	TMS0903	DOLOROSO, MS	1:24,000	01/01/2000	-912230 - -911500	311500 - 312230	MS	Contours

70926	TMS0904	EDDICETON, MS	1:24,000	01/01/2000	-905230 - -904500	313000 - 313730	MS	Contours
70939	TMS0917	GLOSTER, MS	1:24,000	01/01/2000	-910730 - -910000	310730 - 311500	MS	Contours
70726	TMS0697	HILLSDALE, MS	1:24,000	01/01/2000	-893000 - -892230	305230 - 310000	MS	Contours
70942	TMS0920	HOMOCHITTO, MS	1:24,000	01/01/2000	-910000 - -905230	311500 - 312230	MS	Contours
70944	TMS0922	JEANNETTE, MS	1:24,000	01/01/2000	-911500 - -910730	312230 - 313000	MS	Contours
70947	TMS0925	KIRBY, MS	1:24,000	01/01/2000	-910000 - -905230	313000 - 313730	MS	Contours
70306	TMS0275	KNOBTOWN, MS	1:24,000	01/01/2000	-883730 - -883000	312230 - 313000	MS	Contours
70948	TMS0926	KNOXVILLE, MS	1:24,000	01/01/2000	-910730 - -910000	312230 - 313000	MS	Contours
70320	TMS0289	LANHAM, MS	1:24,000	01/01/2000	-890730 - -890000	313000 - 313730	MS	Contours
70321	TMS0290	LATIMER, MS	1:24,000	01/01/2000	-885230 - -884500	303000 - 303730	MS	Contours
70338	TMS0307	LITTLE SPRINGS, MS	1:24,000	01/01/2000	-904500 - -903730	312230 - 313000	MS	Contours
70379	TMS0348	MC BRIDE, MS	1:24,000	01/01/2000	-905230 - -904500	314500 - 315230	MS	Contours
70372	TMS0341	MC CALL CREEK, MS	1:24,000	01/01/2000	-904500 - -903730	313000 - 313730	MS	Contours
70723	TMS0694	MC HENRY, MS	1:24,000	01/01/2000	-891500 - -890730	303730 - 304500	MS	Contours
70958	TMS0936	MEADVILLE, MS	1:24,000	01/01/2000	-910000 - -905230	312230 - 313000	MS	Contours
70417	TMS0386	MULBERRY, MS	1:24,000	01/01/2000	-885230 - -884500	312230 - 313000	MS	Contours
70422	TMS0391	NEELY, MS	1:24,000	01/01/2000	-885230 - -884500	310730 - 311500	MS	Contours
70448	TMS0417	OVETT, MS	1:24,000	01/01/2000	-890730 - -890000	312230 - 313000	MS	Contours
70481	TMS0450	PIAVE, MS	1:24,000	01/01/2000	-884500 - -883730	312230 - 313000	MS	Contours
70510	TMS0479	RAMSEY SPRINGS, MS	1:24,000	01/01/2000	-890000 - -885230	304500 - 305230	MS	Contours
70519	TMS0488	RHODES, MS	1:24,000	01/01/2000	-890000 - -885230	312230 - 313000	MS	Contours
70526	TMS0495	ROCK HILL, MS	1:24,000	01/01/2000	-892230 - -891500	310000 - 310730	MS	Contours
70976	TMS0954	ROXIE, MS	1:24,000	01/01/2000	-910730 - -910000	313000 - 313730	MS	Contours
70713	TMS0684	SELLERS, MS	1:24,000	01/01/2000	-892230 - -891500	303000 - 303730	MS	Contours
70718	TMS0689	SILVER RUN, MS	1:24,000	01/01/2000	-892230 - -891500	303730 - 304500	MS	Contours
70590	TMS0559	STRENGTHFORD, MS	1:24,000	01/01/2000	-890000 - -885230	313000 - 313730	MS	Contours
70722	TMS0693	SUCCESS, MS	1:24,000	01/01/2000	-890730 - -890000	303000 - 303730	MS	Contours
70991	TMS0970	UNION CHURCH, MS	1:24,000	01/01/2000	-905230 - -904500	313730 - 314500	MS	Contours
70651	TMS0620	VESTRY, MS	1:24,000	01/01/2000	-885230 - -884500	303730 - 304500	MS	Contours
70663	TMS0632	WATER OAK, MS	1:24,000	01/01/2000	-885230 - -884500	313000 - 313730	MS	Contours
70676	TMS0645	WHITE PLAINS, MS	1:24,000	01/01/2000	-890000 - -885230	303000 - 303730	MS	Contours
70834	TMS0811	WHITES CROSSING, MS	1:24,000	01/01/2000	-890730 - -890000	304500 - 305230	MS	Contours
70997	TMS0977	WILKINSON, MS	1:24,000	01/01/2000	-911500 - -910730	310730 - 311500	MS	Contours
70719	TMS0690	WORTHAM, MS	1:24,000	01/01/2000	-891500 - -890730	303000 - 303730	MS	Contours
71043	TMT0009	AJAX RANCH, MT	1:24,000	01/01/1997	-1133730 - -1133000	452230 - 453000	MT	Contours
71369	TMT0340	CABOOSE CANYON, MT	1:24,000	01/01/1997	-1125230 - -1124500	443000 - 443730	MT	Contours
74394	TMT3498	CHESTER, MT	1:100,000	01/01/2002	-1110000 - -1100000	483000 - 490000	MT	Surface Management
73974	TMT3014	CLIFF LAKE, MT	1:24,000	01/01/1997	-1113730 - -1113000	444500 - 445230	MT	Contours
71615	TMT0587	DEER CANYON, MT	1:24,000	01/01/1997	-1130000 - -1125230	444500 - 445230	MT	Contours
71622	TMT0594	DELL, MT	1:24,000	01/01/1997	-1124500 - -1123730	443730 - 444500	MT	Contours
71708	TMT0682	ELK CREEK, MT	1:24,000	01/01/1997	-1135230 - -1134500	453730 - 454500	MT	Contours
74009	TMT3056	ELK SPRINGS, MT	1:24,000	01/01/1997	-1114500 - -1113730	443730 - 444500	MT	Contours
74014	TMT3062	ENNIS LAKE, MT	1:24,000	01/01/1997	-1114500 - -1113730	452230 - 453000	MT	Contours

74013	TMT3061	ENNIS, MT	1:24,000	01/01/1997	-1114500 - -1113730	451500 - 452230	MT	Contours
71738	TMT0713	ERMONT, MT	1:24,000	01/01/1997	-1130000 - -1125230	451500 - 452230	MT	Contours
71841	TMT0823	FOX GULCH, MT	1:24,000	01/01/1997	-1133000 - -1132230	452230 - 453000	MT	Contours
54654	TID0503	GIBBONSVILLE, ID	1:24,000	01/01/1997	-1140000 - -1135230	453000 - 453730	MT	Contours
74037	TMT3087	GRANITE MOUNTAIN, MT	1:24,000	01/01/1997	-1114500 - -1113730	445230 - 450000	MT	Contours
71936	TMT0920	GRAPHITE MOUNTAIN, MT	1:24,000	01/01/1997	-1130000 - -1125230	443730 - 444500	MT	Contours
71981	TMT0968	HANSEN RANCH, MT	1:24,000	01/01/1997	-1130730 - -1130000	445230 - 450000	MT	Contours
71992	TMT0979	HARLOWTON, MT	1:100,000	01/01/2002	-1100000 - -1090000	460000 - 463000	MT	Minerals Management
71993	TMT0980	HARLOWTON, MT	1:100,000	01/01/2002	-1100000 - -1090000	460000 - 463000	MT	Surface Management
72058	TMT1045	HIGHLAND RANCH, MT	1:24,000	01/01/1997	-1133730 - -1133000	453000 - 453730	MT	Contours
72146	TMT1133	ISAAC MEADOWS, MT	1:24,000	01/01/1997	-1134500 - -1133730	453000 - 453730	MT	Contours
72147	TMT1134	ISLAND BUTTE, MT	1:24,000	01/01/1997	-1130000 - -1125230	443000 - 443730	MT	Contours
72152	TMT1139	JACKSON, MT	1:24,000	01/01/1997	-1133000 - -1132230	451500 - 452230	MT	Contours
72159	TMT1146	JEFF DAVIS PEAK, MT	1:24,000	01/01/1997	-1131500 - -1130730	445230 - 450000	MT	Contours
72258	TMT1247	LAME DEER, MT	1:100,000	01/01/2002	-1070000 - -1060000	453000 - 460000	MT	Minerals Management
72259	TMT1248	LAME DEER, MT	1:100,000	01/01/2002	-1070000 - -1060000	453000 - 460000	MT	Surface Management
72306	TMT1297	LIMA PEAKS, MT	1:24,000	01/01/1997	-1123730 - -1123000	443000 - 443730	MT	Contours
111647	USFS0409	LOLO NATIONAL FOREST WEST HALF, MT	1:126,720	01/01/2001	-1154500 - -1132230	462230 - 480000	MT	No Contours
72572	TMT1568	MUD LAKE, MT	1:24,000	01/01/1997	-1133000 - -1132230	453730 - 454500	MT	Contours
74133	TMT3197	NO MAN PEAK, MT	1:24,000	01/01/1997	-1113730 - -1113000	450000 - 450730	MT	Contours
74134	TMT3198	NOBLE PEAK, MT	1:24,000	01/01/1997	-1120730 - -1120000	453000 - 453730	MT	Contours
72721	TMT1721	PLAINS, MT	1:100,000	01/01/2002	-1150000 - -1140000	470000 - 473000	MT	Minerals Management
72722	TMT1722	PLAINS, MT	1:100,000	01/01/2002	-1150000 - -1140000	470000 - 473000	MT	Surface Management
72779	TMT1779	PROPOSAL ROCK, MT	1:24,000	01/01/1997	-1132230 - -1131500	453730 - 454500	MT	Contours
72963	TMT1966	SELWAY MOUNTAIN, MT	1:24,000	01/01/1997	-1133000 - -1132230	450730 - 451500	MT	Contours
114526		SELWAY-BITTERROOT WILDERNESS NORTH,ID	1:63,360	01/01/1999	-1152230 - -1140730	460730 - 464500	MT	Contours
114525		SELWAY-BITTERROOT WILDERNESS SOUTH, ID	1:63,360	01/01/1999	-1152230 - -1140730	453730 - 461500	MT	Contours
73029	TMT2033	SNOWLINE, MT	1:24,000	01/01/1997	-1123000 - -1122230	443000 - 443730	MT	Contours
73069	TMT2073	SPUR MOUNTAIN, MT	1:24,000	01/01/1997	-1120730 - -1120000	445230 - 450000	MT	Contours
73203	TMT2210	TOWNSEND, MT	1:100,000	01/01/2002	-1120000 - -1110000	460000 - 463000	MT	Minerals Management
73204	TMT2212	TOWNSEND, MT	1:100,000	01/01/2002	-1120000 - -1110000	460000 - 463000	MT	Surface Management
74246	TMT3329	WINDY HILL, MT	1:24,000	01/01/1997	-1115230 - -1114500	444500 - 445230	MT	Contours
73381	TMT2399	WISE RIVER, MT	1:24,000	01/01/1997	-1130000 - -1125230	454500 - 455230	MT	Contours
71316	TMT0286	BROADUS, MT	1:100,000	01/01/2002	-1060000 - -1050000	450000 - 453000	MT WY	Minerals Management
71317	TMT0287	BROADUS, MT	1:100,000	01/01/2002	-1060000 - -1050000	450000 - 453000	MT WY	Surface Management

75483	TNC1084	CAMDEN POINT, NC	1:24,000	01/01/1999	-760000 - -755230	360730 - 361500	NC	
74512	TNC0100	CAPE HATTERAS, NC	1:24,000	01/01/2002	-753730 - -753000	350730 - 351500	NC	Contours
74747	TNC0339	HOFFMAN, NC	1:24,000	01/01/2002	-793730 - -793000	350000 - 350730	NC	Contours
74757	TNC0349	HOWARD REEF, NC	1:24,000	01/01/2002	-760000 - -755230	350730 - 351500	NC	Contours
75597	TNC1200	JEROME, NC	1:24,000	01/01/2002	-784500 - -783730	344500 - 345230	NC	Contours
74844	TNC0436	MANNS HARBOR, NC	1:24,000	01/01/2002	-755230 - -754500	355230 - 360000	NC	Contours
74878	TNC0470	MIDDLETOWN ANCHORAGE, NC	1:24,000	01/01/2002	-760000 - -755230	352230 - 353000	NC	Contours
74979	TNC0571	PINEBLUFF, NC	1:24,000	01/01/1982	-793000 - -792230	350000 - 350730	NC	Contours
74997	TNC0589	POWELLSVILLE, NC	1:24,000	01/01/2000	-770000 - -765230	360730 - 361500	NC	Contours
75078	TNC0670	SCRANTON, NC	1:24,000	01/01/2002	-763000 - -762230	352230 - 353000	NC	Contours
75481	TNC1082	SHILOH, NC	1:24,000	01/01/1999	-760730 - -760000	361500 - 362230	NC	
75609	TNC1213	SINGLETARY LAKE, NC	1:24,000	01/01/1986	-783000 - -782230	343000 - 343730	NC	Contours
75137	TNC0730	STUMPY POINT, NC	1:24,000	01/01/2002	-754500 - -753730	353730 - 354500	NC	Contours
75186	TNC0779	WAINWRIGHT ISLAND, NC	1:24,000	01/01/2002	-761500 - -760730	345400 - 350130	NC	Contours
75227	TNC0820	WINDSOR NORTH, NC	1:24,000	01/01/2000	-770000 - -765230	360000 - 360730	NC	Contours
75236	TNC0829	WINTON, NC	1:24,000	01/01/2000	-770000 - -765230	362230 - 363000	NC	Contours
75237	TNC0830	WOODARD, NC	1:24,000	01/01/2002	-765230 - -764500	355230 - 360000	NC	Contours
112467		DUBLIN, NH	1:24,000	01/01/1998	-720730 - -720000	425230 - 426000	NH	Contours
112472		HINSDALE, NH	1:24,000	01/01/1998	-723000 - -722230	424500 - 425230	NH	Contours
112473		KEENE, NH	1:24,000	01/01/1998	-722230 - -721500	425230 - 426000	NH	Contours
112475		MARLOW, NH	1:24,000	01/01/1998	-721500 - -720730	430000 - 430730	NH	Contours
112484		TROY, NH	1:24,000	01/01/1998	-721500 - -720730	424500 - 425230	NH	Contours
112485		WALPOLE, NH	1:24,000	01/01/1998	-723000 - -722230	430000 - 430730	NH VT	Contours
79382	TNM0015	ACOMA PUEBLO, NM	1:100,000	01/01/2002	-1080000 - -1070000	343000 - 350000	NM	Minerals Management
79383	TNM0016	ACOMA PUEBLO, NM	1:100,000	01/01/2002	-1080000 - -1070000	343000 - 350000	NM	Surface Management
79403	TNM0036	ALAMOGORDO, NM	1:100,000	01/01/2002	-1060000 - -1050000	323000 - 330000	NM	Minerals Management
79404	TNM0037	ALAMOGORDO, NM	1:100,000	01/01/2002	-1060000 - -1050000	323000 - 330000	NM	Surface Management
79423	TNM0056	ALMA, NM	1:24,000	01/01/1999	-1090000 - -1085230	332230 - 333000	NM	Contours
79454	TNM0087	ARAGON, NM	1:24,000	01/01/1999	-1083730 - -1083000	335230 - 340000	NM	Contours
79486	TNM0119	BAILY POINTS, NM	1:24,000	01/01/1999	-1080000 - -1075230	331500 - 332230	NM	Contours
79507	TNM0141	BEARWALLOW MOUNTAIN, NM	1:24,000	01/01/1999	-1084500 - -1083730	332230 - 333000	NM	Contours
79524	TNM0158	BELL PEAK, NM	1:24,000	01/01/1999	-1082230 - -1081500	335230 - 340000	NM	Contours
79558	TNM0192	BLACK MOUNTAIN, NM	1:24,000	01/01/1999	-1081500 - -1080730	332230 - 333000	NM	Contours
79582	TNM0216	BONNER CANYON, NM	1:24,000	01/01/1999	-1080000 - -1075230	330730 - 331500	NM	Contours
79611	TNM0245	BULL BASIN, NM	1:24,000	01/01/1999	-1090000 - -1085230	333730 - 334500	NM	Contours
81668	TNM2333	BULLARD PEAK, NM	1:24,000	01/01/1999	-1083730 - -1083000	323730 - 324500	NM	Contours
79621	TNM0255	BURNT CORRAL CANYON, NM	1:24,000	01/01/1999	-1081500 - -1080730	331500 - 332230	NM	Contours
79624	TNM0258	BURRO PEAK, NM	1:24,000	01/01/1999	-1083000 - -1082230	323000 - 323730	NM	Contours

79662	TNM0296	CANTEEN CANYON, NM	1:24,000	01/01/1999	-1083730 - -1083000	330000 - 330730	NM	Contours
79664	TNM0298	CANYON HILL, NM	1:24,000	01/01/1999	-1083000 - -1082230	330000 - 330730	NM	Contours
79716	TNM0352	CENTERFIRE BOG, NM	1:24,000	01/01/1999	-1085230 - -1084500	335230 - 340000	NM	Contours
79806	TNM0446	COLLINS PARK, NM	1:24,000	01/01/1999	-1083000 - -1082230	333730 - 334500	NM	Contours
81680	TNM2345	CROOKSON PEAK, NM	1:24,000	01/01/1999	-1090000 - -1085230	325230 - 330000	NM	Contours
79869	TNM0509	CRUZVILLE, NM	1:24,000	01/01/1999	-1084500 - -1083730	334500 - 335230	NM	Contours
79919	TNM0559	DILLON MOUNTAIN, NM	1:24,000	01/01/1999	-1085230 - -1084500	334500 - 335230	NM	Contours
79928	TNM0568	DORSEY RANCH, NM	1:24,000	01/01/1999	-1083000 - -1082230	325230 - 330000	NM	Contours
81684	TNM2349	EAGLE EYE PEAK, NM	1:24,000	01/01/1999	-1083730 - -1083000	323000 - 323730	NM	Contours
79991	TNM0632	ESCONDIDO MOUNTAIN, NM	1:24,000	01/01/1999	-1083000 - -1082230	340730 - 341500	NM	Contours
80007	TNM0648	FENCE LAKE, NM	1:100,000	01/01/2002	-1090000 - -1080000	343000 - 350000	NM	Minerals Management
80008	TNM0649	FENCE LAKE, NM	1:100,000	01/01/2002	-1090000 - -1080000	343000 - 350000	NM	Surface Management
80034	TNM0675	FORT BAYARD, NM	1:24,000	01/01/1999	-1081500 - -1080730	324500 - 325230	NM	Contours
80074	TNM0715	GALLO MOUNTAINS EAST, NM	1:24,000	01/01/1999	-1083730 - -1083000	340000 - 340730	NM	Contours
80075	TNM0716	GALLO MOUNTAINS WEST, NM	1:24,000	01/01/1999	-1084500 - -1083730	340000 - 340730	NM	Contours
80095	TNM0736	GILA HOT SPRINGS, NM	1:24,000	01/01/1999	-1081500 - -1080730	330730 - 331500	NM	Contours
114432		GILA WILDERNESS, GILA NF, NM	1:63,360	01/01/2000	-1085230 - -1080000	330730 - 332230	NM	Contours
80103	TNM0744	GLENWOOD, NM	1:24,000	01/01/1999	-1090000 - -1085230	331500 - 332230	NM	Contours
80147	TNM0790	GROUSE MOUNTAIN, NM	1:24,000	01/01/1999	-1084500 - -1083730	331500 - 332230	NM	Contours
80177	TNM0820	HAY MESA, NM	1:24,000	01/01/1999	-1080000 - -1075230	330000 - 330730	NM	Contours
80207	TNM0850	HOLT MOUNTAIN, NM	1:24,000	01/01/1999	-1085230 - -1084500	331500 - 332230	NM	Contours
80221	TNM0864	HORSE MOUNTAIN WEST, NM	1:24,000	01/01/1999	-1081500 - -1080730	335230 - 340000	NM	Contours
80254	TNM0898	INDIAN PEAKS EAST, NM	1:24,000	01/01/1999	-1080000 - -1075230	333000 - 333730	NM	Contours
80255	TNM0899	INDIAN PEAKS WEST, NM	1:24,000	01/01/1999	-1080730 - -1080000	333000 - 333730	NM	Contours
80260	TNM0904	IRON MOUNTAIN, NM	1:24,000	01/01/1999	-1074500 - -1073730	332230 - 333000	NM	Contours
80284	TNM0928	JONES CANYON, NM	1:24,000	01/01/1999	-1090000 - -1085230	340000 - 340730	NM	Contours
80382	TNM1027	LILLEY MOUNTAIN, NM	1:24,000	01/01/1999	-1083000 - -1082230	331500 - 332230	NM	Contours
80395	TNM1040	LITTLE TURKEY PARK, NM	1:24,000	01/01/1999	-1082230 - -1081500	330730 - 331500	NM	Contours
80404	TNM1049	LOCO MOUNTAIN, NM	1:24,000	01/01/1999	-1083000 - -1082230	332230 - 333000	NM	Contours
80417	TNM1062	LORDSBURG, NM	1:100,000	01/01/2002	-1090000 - -1080000	320000 - 323000	NM	Minerals Management
80418	TNM1064	LORDSBURG, NM	1:100,000	01/01/2002	-1090000 - -1080000	320000 - 323000	NM	Surface Management
80443	TNM1090	LUNA, NM	1:24,000	01/01/1999	-1090000 - -1085230	334500 - 335230	NM	Contours
80465	TNM1112	MANGAS MOUNTAIN, NM	1:24,000	01/01/1999	-1082230 - -1081500	340000 - 340730	NM	Contours
81713	TNM2378	MANGAS SPRINGS, NM	1:24,000	01/01/1999	-1083730 - -1083000	324500 - 325230	NM	Contours
80464	TNM1111	MANGAS, NM	1:24,000	01/01/1999	-1082230 - -1081500	340730 - 341500	NM	Contours

81566	TNM2229	MAVERICK MOUNTAIN, NM	1:24,000	01/01/1999	-1075230 - -1074500	324500 - 325230	NM	Contours
80526	TNM1173	MIDDLE MESA, NM	1:24,000	01/01/1999	-1080730 - -1080000	330730 - 331500	NM	Contours
80533	TNM1180	MILLIGAN MOUNTAIN, NM	1:24,000	01/01/1999	-1084500 - -1083730	333730 - 334500	NM	Contours
80547	TNM1194	MOGOLLON BALDY PEAK, NM	1:24,000	01/01/1999	-1083730 - -1083000	331500 - 332230	NM	Contours
80546	TNM1193	MOGOLLON, NM	1:24,000	01/01/1999	-1085230 - -1084500	332230 - 333000	NM	Contours
80550	TNM1197	MOJONERA CANYON, NM	1:24,000	01/01/1999	-1080000 - -1075230	333730 - 334500	NM	Contours
80565	TNM1212	MOON RANCH, NM	1:24,000	01/01/1999	-1085230 - -1084500	330730 - 331500	NM	Contours
80587	TNM1234	MULE CREEK, NM	1:24,000	01/01/1999	-1090000 - -1085230	330000 - 330730	NM	Contours
80606	TNM1253	NEGRITO MOUNTAIN, NM	1:24,000	01/01/1999	-1083730 - -1083000	332230 - 333000	NM	Contours
80631	TNM1278	NORTH STAR MESA, NM	1:24,000	01/01/1999	-1080730 - -1080000	330000 - 330730	NM	Contours
80636	TNM1283	O BAR O CANYON WEST, NM	1:24,000	01/01/1999	-1082230 - -1081500	333000 - 333730	NM	Contours
81570	TNM2233	P A MOUNTAIN, NM	1:24,000	01/01/1999	-1074500 - -1073730	324500 - 325230	NM	Contours
80679	TNM1326	PADDYS HOLE, NM	1:24,000	01/01/1999	-1075230 - -1074500	333730 - 334500	NM	Contours
80709	TNM1356	PELONA MOUNTAIN, NM	1:24,000	01/01/1999	-1080730 - -1080000	333730 - 334500	NM	Contours
80738	TNM1386	PITCHFORK CANYON, NM	1:24,000	01/01/1999	-1083000 - -1082230	333000 - 333730	NM	Contours
80752	TNM1401	PONDEROSA TANK, NM	1:24,000	01/01/1999	-1084500 - -1083730	340730 - 341500	NM	Contours
80793	TNM1443	QUEENS HEAD, NM	1:24,000	01/01/1999	-1084500 - -1083730	335230 - 340000	NM	Contours
80794	TNM1444	QUEMADO, NM	1:24,000	01/01/1999	-1083000 - -1082230	341500 - 342230	NM	Contours
80798	TNM1448	RAEL SPRING, NM	1:24,000	01/01/1999	-1082230 - -1081500	334500 - 335230	NM	Contours
80816	TNM1466	READING MOUNTAIN, NM	1:24,000	01/01/1999	-1082230 - -1081500	325230 - 330000	NM	Contours
80832	TNM1482	REEDS PEAK, NM	1:24,000	01/01/1999	-1075230 - -1074500	330730 - 331500	NM	Contours
80835	TNM1485	RESERVE, NM	1:24,000	01/01/1999	-1085230 - -1084500	333730 - 334500	NM	Contours
80837	TNM1487	RICE RANCH, NM	1:24,000	01/01/1999	-1084500 - -1083730	330730 - 331500	NM	Contours
80888	TNM1538	SALIZ PASS, NM	1:24,000	01/01/1999	-1090000 - -1085230	333000 - 333730	NM	Contours
80894	TNM1544	SALVATION PEAK, NM	1:24,000	01/01/1999	-1082230 - -1081500	333730 - 334500	NM	Contours
81571	TNM2234	SAN LORENZO, NM	1:24,000	01/01/1999	-1080000 - -1075230	324500 - 325230	NM	Contours
114250		SANDIA MOUNTAIN WILDERNESS, NM	1:24,000	01/01/1991	-1063000 - -1062230	351230 - 351730	NM	Contours
81854	TNM2523	SANTA RITA MINE, NM	1:24,000	01/01/1999	-1080730 - -1080000	324500 - 325230	NM	Contours
80959	TNM1609	SAWMILL PEAK, NM	1:24,000	01/01/1999	-1075230 - -1074500	332230 - 333000	NM	Contours
80988	TNM1639	SHELLEY PEAK, NM	1:24,000	01/01/1999	-1083730 - -1083000	330730 - 331500	NM	Contours
81006	TNM1657	SIGN CAMP MOUNTAIN, NM	1:24,000	01/01/1999	-1084500 - -1083730	333000 - 333730	NM	Contours
81009	TNM1662	SILVER CITY, NM	1:24,000	01/01/1992	-1082230 - -1081500	324500 - 325230	NM	Contours
81049	TNM1702	SQUIRREL SPRINGS CANYON, NM	1:24,000	01/01/1999	-1083730 - -1083000	334500 - 335230	NM	Contours
81065	TNM1718	SUGARLOAF PEAK, NM	1:24,000	01/01/1999	-1074500 - -1073730	330730 - 331500	NM	Contours
81095	TNM1748	TAYLOR PEAK, NM	1:24,000	01/01/1999	-1080000 - -1075230	332230 - 333000	NM	Contours
81102	TNM1755	TEJANA MESA SW, NM	1:24,000	01/01/1999	-1084500 - -1083730	341500 - 342230	NM	Contours
81105	TNM1758	TELEPHONE CANYON, NM	1:24,000	01/01/1999	-1083730 - -1083000	333000 - 333730	NM	Contours
81199	TNM1853	TULAROSA CANYON, NM	1:24,000	01/01/1999	-1083000 - -1082230	335230 - 340000	NM	Contours
81214	TNM1868	TWIN SISTERS, NM	1:24,000	01/01/1999	-1081500 - -1080730	325230 - 330000	NM	Contours

81218	TNM1872	UNDERWOOD LAKE, NM	1:24,000	01/01/1999	-1090000 - -1085230	335230 - 340000	NM	Contours
81245	TNM1899	VICTORIO PARK, NM (FORM. VICTORIA PARK)	1:24,000	01/01/1999	-1075230 - -1074500	330000 - 330730	NM	Contours
81256	TNM1910	WAHOO PEAK, NM	1:24,000	01/01/1999	-1075230 - -1074500	333000 - 333730	NM	Contours
81257	TNM1911	WAHOO RANCH, NM	1:24,000	01/01/1999	-1074500 - -1073730	333000 - 333730	NM	Contours
81259	TNM1913	WALL LAKE, NM	1:24,000	01/01/1999	-1080730 - -1080000	331500 - 332230	NM	Contours
81755	TNM2420	WHITEROCK MOUNTAIN, NM	1:24,000	01/01/1999	-1074500 - -1073730	323730 - 324500	NM	Contours
81307	TNM1961	WIND MOUNTAIN, NM	1:24,000	01/01/1999	-1083000 - -1082230	323730 - 324500	NM	Contours
81309	TNM1963	WINSTON, NM	1:24,000	01/01/1999	-1074500 - -1073730	331500 - 332230	NM	Contours
81313	TNM1967	WOODLAND PARK, NM	1:24,000	01/01/1999	-1082230 - -1081500	331500 - 332230	NM	Contours
106790	TWA1557	BACON PEAK, WA	1:24,000	01/01/1999	-1213730 - -1213000	483730 - 484500	WA	Contours
106799	TWA1566	BIG DEVIL PEAK, WA	1:24,000	01/01/1999	-1212230 - -1211500	483000 - 483730	WA	Contours
105423	TWA0174	CASCADE PASS, WA	1:24,000	01/01/1999	-1210730 - -1210000	482230 - 483000	WA	Contours
107052	TWA1829	CHELAN, WA	1:100,000	01/01/2002	-1210000 - -1200000	473000 - 480000	WA	Minerals Management
106840	TWA1608	DAMNATION PEAK, WA	1:24,000	01/01/1989	-1213000 - -1212230	483730 - 484500	WA	Contours
105545	TWA0296	DOWNEY MTN, WA	1:24,000	01/01/1999	-1211500 - -1210730	481500 - 482230	WA	Contours
105566	TWA0317	ELDORADO PEAK, WA	1:24,000	01/01/1999	-1211500 - -1210730	483000 - 483730	WA	Contours
113633	I2592	GEOLOGIC MAP OF SAUK RIVER QUAD, WA	NO SCALE	01/01/2002	-1220000 - -121000	480000 - 483000	WA	
106857	TWA1627	GLACIER PEAK EAST, WA	1:24,000	01/01/1999	-1210730 - -1210000	480000 - 480730	WA	Contours
106858	TWA1628	GLACIER PEAK WEST, WA	1:24,000	01/01/1999	-1211500 - -1210730	480000 - 480730	WA	Contours
105732	TWA0483	ILLABOT PEAKS, WA	1:24,000	01/01/1999	-1213000 - -1212230	482230 - 483000	WA	Contours
106900	TWA1670	LIME MOUNTAIN, WA	1:24,000	01/01/1999	-1211500 - -1210730	480730 - 481500	WA	Contours
106908	TWA1678	MARBLEMOUNT, WA	1:24,000	01/01/1999	-1213000 - -1212230	483000 - 483730	WA	Contours
106128	TWA0880	MOUNT PUGH, WA (FORMERLY PUGH MOUNTAIN)	1:24,000	01/01/1999	-1212230 - -1211500	480730 - 481500	WA	Contours
106947	TWA1722	MOUNT TRIUMPH, WA	1:24,000	01/01/1999	-1212230 - -1211500	483730 - 484500	WA	Contours
106992	TWA1768	SAUK MOUNTAIN, WA	1:24,000	01/01/1999	-1213730 - -1213000	483000 - 483730	WA	Contours
106251	TWA1003	SLOAN PEAK, WA	1:24,000	01/01/1999	-1212230 - -1211500	480000 - 480730	WA	Contours
106264	TWA1016	SNOWKING MTN, WA	1:24,000	01/01/1999	-1212230 - -1211500	482230 - 483000	WA	Contours
106267	TWA1019	SONNY BOY LAKES, WA	1:24,000	01/01/1999	-1211500 - -1210730	482230 - 483000	WA	Contours
107009	TWA1785	SUIATTLE PASS, WA	1:24,000	01/01/1999	-1210000 - -1205230	480730 - 481500	WA	Contours
109012	TWV0277	MUD, WV	1:24,000	01/01/1996	-820000 - -815230	380000 - 380730	WV	Contours
111107	TWY1729	BAIROIL, WY	1:100,000	01/01/2002	-1080000 - -1070000	420000 - 423000	WY	Surface Management
111108	TWY1730	BAIROIL, WY	1:100,000	01/01/2002	-1080000 - -1070000	420000 - 423000	WY	Minerals Management
109514	TWY0128	BILL, WY	1:100,000	01/01/2002	-1060000 - -1050000	430000 - 433000	WY	Minerals Management
109515	TWY0129	BILL, WY	1:100,000	01/01/2002	-1060000 - -1050000	430000 - 433000	WY	Surface Management
111465	TWY2092	ROCK RIVER, WY	1:100,000	01/01/2002	-1060000 - -1050000	413000 - 420000	WY	Surface Management

111466	TWY2093	ROCK RIVER, WY	1:100,000	01/01/2002	-1060000 - -1050000	413000 - 420000	WY	Minerals Management
111140	TWY1762	SHIRLEY BASIN, WY	1:100,000	01/01/2002	-1070000 - -1060000	420000 - 423000	WY	Surface Management
111141	TWY1763	SHIRLEY BASIN, WY	1:100,000	01/01/2002	-1070000 - -1060000	420000 - 423000	WY	Minerals Management
113787		NATIONAL WILDLIFE REFUGE SYSTEM	1:7,500,000	01/01/2002				

☆ U.S. GOVERNMENT PRINTING OFFICE: 2003 — 573-052 / 30111 Region No. 8

USGS
science for a changing world

U.S. Geological Survey Maps, Books, and Other Published Products Order Form

1. Use this form to order U.S. Geological Survey (USGS) maps, books, and other published products.

Refer to the USGS Maps Price List for the most recent prices of all USGS maps.

2. Domestic Orders. Payment (check, money order, purchase order, major credit card, or Government account) must accompany order. Please include a **$5** handling fee. Make all drafts payable to the Department of the Interior-USGS. **Do not send cash.** Delivery will be provided by a Government-selected courier. If you request a specific courier service, please provide your courier account number.

3. International Orders. All international orders must be prepaid. Payment for orders shipped outside the United States may be made with any major credit card or international money order drawn on U.S. funds. Customers are responsible for shipping costs, customs fees, and any other charges associated with international shipment. Please designate a preferred carrier (FedEx, DHL, or UPS) and provide your carrier account number and telephone number for shipping. A handling fee of **$5** will be charged for each international order.

4. The Stock Number column refers to the stock, ISBN, or book series number.

5. To order by mail, return order form and payment to:

USGS Information Services
Box 25286
Denver, CO 80225

To order by fax, call 303-202-4693 and transmit order form. You can also order through Earth Explorer at earthexplorer.usgs.gov.

6. For information or ordering assistance, call 1-888-ASK-USGS.

Name (first, middle initial, last)	Telephone Number (required)	Date
Company or Agency	Customer Purchase Order Number	
Address (street address preferred)	USGS Vendor Code or Account Number	
City, State, and ZIP Code	Major Credit Card Number	
Ship to (if different from above):	Expiration Date / Signature	
	E-Mail Address:	
	International Carrier: / Carrier Account Number:	

Quantity	Stock Number	State	Scale	Product Name or Title	Unit Price	Total Price
					Subtotal	
					Subtotal (from reverse)	
					Handling Charge (per order mailed)	5.00
					Total Order Cost	

Quantity	Stock Number	State	Scale	Product Name or Title	Unit Price	Total Price
					Subtotal	

USGS
science for a changing world

U.S. Geological Survey Open-File Reports

1. Use this form to order U.S. Geological Survey (USGS) open-file reports.

2. Not all open-file reports are available on all output media. Call 303-202-4700 or 1-888-ASK-USGS for more information.

3. Domestic Orders. Payment (check, money order, purchase order, any major credit card, or Government account) must accompany order. Please include a **$5** handling fee. Make all drafts payable to the Department of the Interior-USGS. **Do not send cash.** Delivery will be provided by a Government-selected courier. If you request a specific courier service, please provide your courier account number.

4. International Orders. All international orders must be prepaid. Payment for orders shipped outside the United States may be made with any major credit card or international money order drawn on U.S. funds. Customers are responsible for shipping costs, customs fees, and any other charges associated with international shipment. Please designate a preferred carrier (FedEx, DHL, or UPS) and provide your carrier account number and telephone number for shipping. A handling fee of **$5** will be charged for each international order.

5. The Stock Number column refers to the stock, ISBN, or book series number.

6. To order by mail, return order form and payment to:

USGS Information Services
Box 25286
Denver, CO 80225

To order by fax, call 303-202-4693 and transmit order form.

7. For information or ordering assistance, call 1-888-ASK-USGS.

Name (first, middle initial, last)	Telephone Number	Date
Company or Agency	Customer Purchase Order Number	
Address	USGS Vendor Code or Account Number	
City, State, and ZIP Code	Major Credit Card Number	
Ship to (if different from above):	Expiration Date	
	Signature	
	E-Mail Address:	
	International Carrier	Carrier Account Number

Stock Number	Title	Shelf Location (office use only)	Quantity of Output Media				Unit Price	Total Price
			Paper	Micro-fiche	Disk-ette	CD-ROM		

Subtotal	
Subtotal (from reverse)	
Handling Charge (per order mailed)	5.00
Total Order Cost	

Stock Number	Title	Shelf Location (office use only)	Quantity of Output Media: Paper	Micro-fiche	Disk-ette	CD-ROM	Unit Price	Total Price
							Subtotal	

USGS
science for a changing world

U.S. Geological Survey Maps Price List

This list includes maps sold by the U.S. Geological Survey (USGS). Indexes are available for some map series.

Many of these maps can also be purchased from a USGS Business Partner. Refer to your local phone book's yellow pages for commercial map dealers to contact them directly for pricing and ordering information.

The USGS Maps and Books order form accompanies this price list.

To order by mail, send order form and payment to:

USGS Information Services
Box 25286
Denver, CO 80225

Maps can be purchased at many Earth Science Information Centers (ESIC).

To order by fax, call 303-202-4693 and transmit order form or order through Earth Explorer at earthexplorer.usgs.gov.

For information or ordering assistance, call 1-888-ASK-USGS.

Map Name and Scale	Price (per sheet)
Primary Series Topographic Quadrangle Maps	**$6.00**
Standard Topographic Quadrangles (7.5 minute 1:24,000, 1:25,000, 1:20,000; 7.5 x 15 minute 1:25,000; 1:63,360)	
Topographic, Image, and Related Maps	**$7.00**
County Maps (1:50,000 and 1:100,000)	
1:100,000 Maps	
1:250,000 Maps	
Ecological Inventory Maps (1:250,000)	
State Maps:	
No contours, black only (1:1,000,000)	
No contours, black and blue (1:500,000)	
No contours, multicolor, planimetric (1:500,000)	
Topographic or shaded relief (1:500,000)	
Alaska State Maps:	
Base (1:1,584,000)	
Topographic (1:1,584,000)	
Base (1:2,500,000)	
Topographic (1:2,500,000)	
Shaded relief (1:2,500,000)	
Alaska Boundary Series Maps (1:250,000)	
Alaska Federal Conservation Map (1:5,000,000)	
Satellite Image Maps (Refer to the Satellite Image Maps product list.)	
Antarctic Maps (Refer to the Antarctica Maps product list.)	
Magnetic Field Maps (Refer to the Magnetic Field Maps product list.)	
National Atlas of the United States™ Maps	
National Park Maps	
U.S. Base Maps:	
2-A (1:2,500,000), five colors (including buff and land tint), State and county boundaries, two sheets	
2-B (1:2,500,000), same as 2-A except four colors and no land tint, two sheets	
3-A (1:3,168,000), three colors, State boundaries, national parks and forests	
3-B (1:3,168,000), same as 3-A except seven colors and historical boundaries and public land surveys	
6-A (1:6,000,000), 4 colors, State boundaries, national parks, roads and railroads, Alaska and Hawaii shown in correct geographical location	
7-A (1:7,000,000), two colors, State boundaries, 48 States only	
8-A (1:8,300,000), six colors, State boundaries, routes of U.S. explorers	
10-A (1:10,000,000), same as 6-A	
11-A (1:11,875,000), two colors, State boundaries, conterminous 48 States only	
16-A (1:16,500,000), same as 11-A	
Political Map of the World (1:35,000,000), 41" x 22"	

U.S. Geological Survey Maps Price List, continued

Map Name and Scale	Price (per sheet)
Topographic, Image, and Related Maps	**$7.00**
The World (outline map):	
(1:40,000,000), 48" x 33"	
(1:80,000,000), 25" x 18"	
World Seismicity Map (1:39,000,000), 48" x 36"	
This Dynamic Planet - World Map of Volcanoes, Earthquakes, and Plate Tectonics (1:30,000,000), 58" x 41"	
U.S. Contour Map:	
7-B (1:7,000,000), three colors, State boundaries, conterminous 48 States only, contours	
U.S. Outline Maps:	
5-B (1:5,000,000), two colors, State and county boundaries and names	
5-D (1:5,000,000), one color, State boundaries and names	
5-E (1:5,000,000), one color, State boundaries only	
U.S. Physical Divisions Map:	
7-C (1:7,000,000), three colors, State boundaries, conterminous 48 States only, physical divisions shown in red	
North America Map:	
10-B (1:10,000,000), two colors	
U.S. Federal Aid Highway Map:	
17 (1:3,168,000), same as 3-A (U.S. Base Map) except seven colors and overprint of Interstate and Defense Highways and the Federal Aid Highway System	
Maps of an Emerging Nation, The United States of America, 1775-1987:	
Full color, reproduction of 1784 U.S. map on one side, 14 territorial growth maps on reverse side, 29" x 22"	
Indian Land Areas Judicially Established (1:4,000,000)	
Thematic Maps	**$7.00**
Hydrologic Unit Map of (State)	
Basement Rock Map of the United States (two sheets)	
Basement Rock Map of North America	
Bouguer Gravity Anomaly Map of the United States	
Coal Map of North America (three sheets)	
Geologic Map of (selected States)	
Geologic Map of the United States (three sheets)	
Preliminary Metallogenic Map of North America (four sheets)	
Subsurface Temperature Map of North America (two sheets)	
Geologic Quadrangles (GQ)	
Miscellaneous Field Studies (MF)	
Miscellaneous Investigations (I)	
Geophysical Investigations (GP)	
Hydrologic Atlas (HA)	
Coal Investigations (C)	
Mineral Investigations Resources (MR)	
Oil and Gas Investigations Charts (OC)	
Oil and Gas Investigations Maps (OM)	
Land Use Maps (L)	
Antarctic Geologic Maps (A)	
Planetary Maps	
Seismic-Hazard Maps, Conterminous United States (1:7,000,000)	
Landslide Overview Map of the Conterminous United States (1:4,000,000), 48" x 34"	
Folded maps published after November 1, 1999 will be: Single sheet **$7.00**; two or more sheets, maximum of **$14.00**; Legends and pamphlets are **free**..	
Earthquake Maps (Refer to the Earthquake Maps price list for the most recent prices and products.)	**Varies**
National Imagery and Mapping Agency (NIMA) Topographic Maps, Publications and Digital Products (Refer to the NIMA price list for the most recent prices and products.)	**Varies**
Historical Maps	**$12.00**
USGS Map-on-Demand Printing (Rarely requested maps.)	**$20.00**

U.S. DEPARTMENT OF COMMERCE
TECHNOLOGY ADMINISTRATION
NATIONAL TECHNICAL INFORMATION SERVICE

ORDER FORM

NTIS
Information is our business

NTIS Web Site — http://www.ntis.gov

SHIP TO ADDRESS (please print or type)

CUSTOMER MASTER NUMBER (IF KNOWN) | DATE

ATTENTION/NAME

ORGANIZATION | DIVISION / ROOM NUMBER

STREET ADDRESS

CITY | STATE | ZIP CODE

PROVINCE / TERRITORY | INTERNATIONAL POSTAL CODE

COUNTRY

PHONE NUMBER ( ) | FAX NUMBER ( )

CONTACT NAME | INTERNET E-MAIL ADDRESS

METHOD OF PAYMENT (please print or type)

❑ VISA ❑ MasterCard ❑ American Express ❑ Discover

CREDIT CARD NUMBER | EXPIRATION DATE

CARDHOLDERíS NAME

❑ NTIS Deposit Account Number:

❑ Check / Money Order enclosed for $ (PAYABLE TO NTIS IN U.S. DOLLARS)

ORDER BY PHONE (ELIMINATE MAIL TIME)
8:00 a.m. - 6:00 p.m. Eastern Time, M – F.
Sales Desk: 1-800-553-NTIS (6847) or (703) 605-6000
TDD: (703) 487-4639 (8:30 a.m. - 5:00 p.m.)

CUSTOMER SERVICE
1-888-584-8332 or (703) 605-6050

ORDER BY FAX – 24 hours/7 days a week:
(703) 605-6900. To verify receipt of fax call:
(703) 605-6090, 7:00 a.m. - 5:00 p.m. Eastern Time, M-F.

ORDER BY MAIL
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

RUSH SERVICE is available for an additional fee.
Call 1-800-553-6847 or (703) 605-6000.

ORDER VIA E-MAIL – For Internet security when placing your orders via e-mail, register your credit card at NTIS; call (703) 605-6070. Order via E-mail 24 hours a day: orders@ntis.fedworld.gov

BILL ME (U.S., Canada, and Mexico only)
NTIS will gladly bill your order, for an additional fee of $10.00. A request to be billed must be on a purchase order or company letterhead. An authorizing signature, contact name, and telephone number should be included with this request. Requests may be mailed or faxed.

ALL SALES ARE FINAL – NTIS electronically stores our collection of almost 3 million items and custom-reproduces a single copy specifically for your order. Therefore, NTIS does not accept cancellations, requests for modifications, or returns for credit or refund. All sales are final. If you believe the item you received is defective or if we made an error in filling your order, please contact our Customer Service Department via e-mail at info@ntis.fedworld.gov or by phone at 1-888-584-8332 or (703)605-6050.

PRODUCT SELECTION (please print or type)

NTIS PRODUCT NUMBER	INTERNAL CUSTOMER ROUTING (OPTIONAL) UP TO 8 CHARACTERS	UNIT PRICE	QUANTITY: PAPER COPY	MICRO-FICHE	MAGNETIC TAPE *	DISKETTE	CD-ROM	OTHER	INTERNATIONAL AIRMAIL FEES (SEE BELOW)	TOTAL PRICE
		$							$	$
		$							$	$
		$							$	$
		$							$	$
		$							$	$
		$							$	$

* CIRCLE REQUIREMENTS	3480 CARTRIDGE	1600 BPI	6250 BPI	LABELING: STANDARD	NONLABELED	FORMAT: EBCDIC	ASCII

TOTAL	$
HANDLING FEE PER TOTAL ORDER	$ 5.00
Outside North America–$10.00	$
GRAND TOTAL	$

PLEASE NOTE
Unless microfiche or other is specified, paper copy will be sent.
Please call the Sales Desk at 1-800-553-NTIS (6847) or (703) 605-6000 for information on multiple copy discounts available for certain documents.

Out-Of-Print Surcharge
A 25% out-of-print surcharge will be added to titles acquired by NTIS more than 3 years prior to the current calendar year.

International Airmail Fees
All regular prepaid orders are shipped "air-to-surface" unless airmail is requested. Airmail service is available for an additional fee. Canada and Mexico add $4 *per item*. Other countries add $8 *per item*.

Thank you for your order!

United States Government INFORMATION
PUBLICATIONS ★ PERIODICALS ★ ELECTRONIC PRODUCTS

ORDER BY MAIL

Superintendent of Documents
PO Box 371954
Pittsburgh, PA 15250–7954

Order Processing Code
* 3264

ORDER BY PHONE:
(202) 512-1800
7:30 a.m. - 4:30 p.m.
eastern time

ORDER BY FAX:
(202) 512-2250
24 hours a day

ORDER ONLINE:
• orders@gpo.gov
• www.access.gpo.gov/su_docs/sale/prf/prf.html
24 hours a day

Please type or print

Publications

Qty.	Stock Number	Title	Price	Total Price
			Total for Publications	

Subscriptions

Qty.	List ID	Title	Price	Total Price
			Total for Subscriptions	
			Total Cost of Order	

NOTE: Prices include regular domestic postage and handling and are subject to change. International customers please add 25%.

Check method of payment:

❑ Check payable to Superintendent of Documents
❑ GPO Deposit Account _____ – _____
❑ VISA ❑ MasterCard ❑ Discover/Novus

_____
_____ (expiration date)

_____
Authorizing signature 12/98

Personal name (Please type or print)

Company name

Street address

City, State, Zip code

Daytime phone including area code

Please return order form with payment.

If you have questions regarding my order
Call ( ) _____ daytime
Fax ( ) _____
or Email _____

Thank you for your interest in U.S. Government Information. ALL SALES ARE FINAL.

AVAILABILITY OF USGS PRODUCTS BY MAIL

An order form for USGS products is provided at the end of this catalog. In ordering books give the series designation and number, such as U.S. Geological Survey Circular 1178, and the full title. In ordering maps give name or series designation and number, such as Fairfax, Va., 7.5-minute or GQ-851. Include your full address and ZIP Code, plainly printed. Payment (check, money order, purchase order, VISA, MasterCard, American Express, or Discover Card information, or Government account) must accompany order. Make all drafts payable to Department of the Interior - USGS. **Do not send cash.** Customers outside the United States, please send an international money order or check drawn on a U.S. bank in U.S. dollars. VISA, MasterCard, American Express, or Discover Card is also accepted.

Prices listed include cost of domestic surface transportation. Delivery is by a Government-selected courier. For international delivery, actual shipping costs will be billed. Please designate a preferred international carrier (FedEx, DHL, or UPS) and provide the USGS with a carrier account number and telephone number to use when making shipment. A $5.00 handling charge is applicable on each order.

Digital Data Series, Professional Papers, Bulletins, Water-Supply Papers, Techniques of Water-Resources Investigations, Circulars, Fact Sheets, single copies of the annual catalog "Publications of the U.S. Geological Survey," topographic and thematic maps, and some miscellaneous reports, including some from the foregoing series that have gone out of print at the Superintendent of Documents, are obtainable by mail from

USGS Information Services
Box 25286, Federal Center
Denver, CO 80225

Open-file reports should be ordered according to instructions under appropriate headings in this announcement. An order form for USGS open-file reports is provided at the end of this catalog.

AVAILABILITY OF USGS PRODUCTS OVER THE COUNTER

Books, Maps, and Other Products

Books, maps, and other products of the U.S. Geological Survey are available over the counter at the following USGS Earth Science Information Centers (ESIC's):

ANCHORAGE, Alaska—Rm. 101, 4230 University Dr.
DENVER, Colorado—Bldg. 810, Federal Center
MENLO PARK, California—Rm. 3128, Bldg. 3, 345 Middlefield Rd.
RESTON, Virginia—Rm. 1C402, USGS National Center, 12201 Sunrise Valley Dr.

Maps Only

Maps may be purchased over the counter at the following U.S. Geological Survey office:

ROLLA, Missouri—1400 Independence Rd.

USGS maps are also sold by commercial dealers throughout the United States. For the nearest authorized USGS Business Partner, call 1-888-ASK-USGS or check http://mapping.usgs.gov/esic/map_dealers/ on the World Wide Web.

AVAILABILITY OF USGS PRODUCTS BY TELEPHONE

USGS products can be ordered by calling 1-888-ASK-USGS.

IMPORTANT NOTICE

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

The minimum for any USGS book publication is $1.50 with the exception of Circulars, which are free in limited quantities. This minimum applies to all publications previously advertised.

U.S. DEPARTMENT DF THE INTERIDR
U.S. GEDLDGICAL SURVEY
903 NATIDNAL CENTER
RESTON, VA 20192

OFFICIAL BUSINESS
Penalty for private use $300

PRSRT STD
PDSTAGE & FEES PAID
USGS
PERMIT NO. G-786

Lists 1134–1136–New Publications of the U.S. Geological Survey January–March 2003

ISBN 0-607-90651-0


Printed on recycled paper.