

# 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, however, so that subscribers will have a complete set of the quarterlies for the year 2003. These two are the only quarterly issues that will be available online. Effective January 2004, the quarterly version will be discontinued.

Lists 1143–1145—Publications issued October–December 2003

## 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 and 2002 Annual Supplements are free and available online only at <http://pubs.usgs.gov/publications/>.

“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 1143–1145 —Publications issued October–December 2003

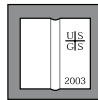
Any use of trade, product, or firm names in this publication  
is for descriptive purposes only and does not imply  
endorsement by the U.S. Government



# C O N T E N T S



New Publications of Special Interest ..... 2



Formal Reports ..... 3  
 Digital Data Series ..... \*  
 Professional Paper ..... 3  
 Bulletins ..... 3  
 Water-Supply Papers ..... \*  
 Circulars ..... 4  
 Techniques of Water-Resources Investigation ..... \*  
 General Interest Publications ..... \*  
 Miscellaneous and Special Books ..... 7  
     Geographic Names Information System ..... 7  
     Catalog ..... \*  
     Other Special Books ..... \*  
 Fact Sheets ..... 7



Minerals Information Periodicals ..... 7



Informal Reports ..... 8  
 Water-Resources Investigations Reports ..... 8  
 Open-File Reports ..... 11  
     Reports Available Only Through USGS Information Services ..... 11  
     Reports Available Only Through Certain USGS Field Offices ..... \*



Thematic Maps and Charts ..... 19  
 Geologic Quadrangle Map ..... \*  
 Miscellaneous Investigations Series Maps ..... \*  
     Quaternary Geological Atlas of the United States ..... \*  
 Geologic Investigations Series ..... 19  
 Circum-Pacific Map Series ..... \*  
 Miscellaneous Field Studies Maps ..... 21  
 Special Geologic Maps ..... \*  
 Hydrologic Investigations Atlas ..... \*  
 Special Map ..... \*



Outside Publications ..... 21  
 Articles and Reports ..... 21  
 Abstracts ..... 37



Topographic Maps ..... 48



Ordering Forms and Information ..... following 54

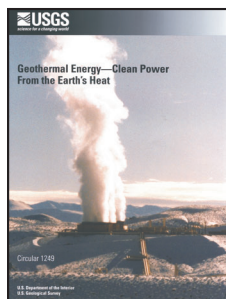
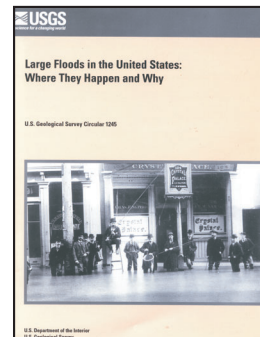
\* No new publications in this series for this quarter

## NEW PUBLICATIONS OF SPECIAL INTEREST

### Circular 1245

C 1245 Large floods in the United States; where they happen and why, by J. E. O'Connor and J. E. Costa. 2003. 13 p. Available on the web at <http://water.usgs.gov/pubs/circ/2003/circ1245/>

The spatial distribution of large gaged floods throughout the United States shows that the locations of most of the largest flows are related to specific combinations of regional climatology, topography, and basin size. Key factors include the general northward trend of decreasing atmospheric moisture, proximity to oceanic moisture sources such as the Pacific Ocean and the Gulf of Mexico, and orientation of topographic features relative to directions of moisture flow, with the largest flows being at locations where topographically high areas are oriented perpendicular to directions of moisture flow. Additionally, the largest flows in large river basins are primarily caused by persistent climatologic conditions such as seasonal snowfall. In contrast, the largest flows in smaller basins are most commonly the result of intense precipitation due to convective storms.



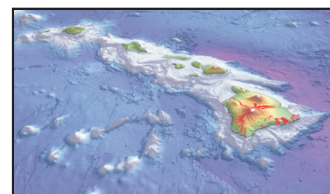
### Circular 1249

C 1249. Geothermal energy; clean power from the Earth's heat, by W. A. Duffield and J. H. Sass. 2003. 36 p. Available on the web at <http://geopubs.wr.usgs.gov/circular/c1249/>

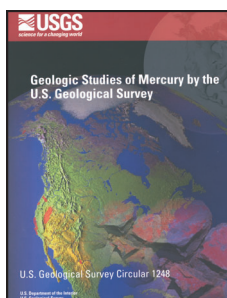
Geothermal energy currently supplies less than 1 percent of the energy consumed in the United States. This report describes the distribution and nature of geothermal energy, reviews geothermal systems, considers potential resources, and summarizes the role of earth science information in assessing geo-

### Geologic Investigations Series 2809

I-2809. HAWAII. Hawaii's volcanoes revealed, by B. W. Eakins, J. E. Robinson, U.S. Geological Survey; Toshiya Kanamatsu, Jiro Naka, Japan Marine Science and Technology Center; J. R. Smith, University of Hawai'i; Eiichi Takahashi, Tokyo Institute of Technology, Earth and Planetary Sciences; and D. A. Clague, Monterey Bay Aquarium Research Institute. Prepared in cooperation with the Japan Marine Science and Technology Center; University of Hawaii, School of Ocean and Earth Science and Technology; and the Monterey Bay Aquarium Research Institute. 2003. Lat 18°N to 23°N, long 154°W to 161°W. Sheet 38 by 25 inches (in color). \$7. Available on the web at <http://geopubs.wr.usgs.gov/i-map/i2809/>



The Japan Marine Science and Technology Center funded and led a 4-year collaborative survey of the underwater flanks of Hawaii's shield volcanoes. This exploration, involving scientists from the U.S. Geological Survey and from other Japanese and U.S. academic and research institutions, used manned and unmanned submersibles, rock dredges, and sediment piston cores to directly sample and visually observe the sea floor. Ship-based sonar systems were used to more widely map the bathymetry from the sea surface.



### Circular 1248

C 1248. Geologic studies of mercury by the U. S. Geological Survey, edited by J. E. Gray. 2003. 41 p. Available on the web at <http://pubs.usgs.gov/circ/2003/c1248/>

This Circular is a collection of six short papers related to the study of mercury in coal; concentrations of mercury in sediment, soil, water, and fish collected near mercury and gold mines; and volcanic emissions of mercury. An overview of the mercury geochemical cycle is also given.





## FORMAL REPORTS

### PROFESSIONAL PAPER

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 1683. The role of geoscience information in reducing catastrophic loss using a web-based economics experiment, by R. L. Bernknopf, D. S. Brookshire and P. T. Ganderton. 2003. 29 p.

This report examines the role that geoscience information can play in the assessment of risk and the value of insurance. The results of Internet-based experiments provide support for the basic postulates of expected utility theory and suggest that, at the end of the computer game, subjects recognize the benefits of greater geoscience information.

### 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 2201-G. Petroleum geology and resources of the West Siberian basin, Russia, by G. F. Ulmishkek. 2003. 49 p. Available on the web at <http://pubs.usgs.gov/bul/b2201-g/>

This report was prepared as part of the World Energy Project of the U.S. Geological Survey. The West Siberian basin is the richest petroleum province of Russia and the former Soviet Union and is ranked first among 128 provinces designated for appraisal of undiscovered oil and gas resources by the U.S. Geological Survey.

B 2203-A. Qingshankou-Putaohua/Shuertu and Jurassic Coal-Denglouku/Nongan total petroleum systems in the Songliao Basin, China, by R. T. Ryder, Jin Qiang, P. J. McCabe, V. F. Nuccio and Felix Persits. 2003. 26 p. Available on the web at <http://pubs.usgs.gov/bul/b2203-a/>

The Songliao Basin in northeastern China is the second largest petroleum-producing province in China. Through 1996, approximately 17.6 billion barrels of oil equivalent (BBOE) of recoverable hydrocarbons (largely oil) had been discovered in the basin, of which about 13.4–14.9 BBOE are from the Daqing complex. As part of the U.S. Geological Survey World Petroleum Assessment 2000, this report describes the regional geology, major total petroleum systems, and estimated undiscovered oil and gas resources of the Songliao Basin.

B 2207-A. Assessment of the undiscovered oil and gas of the Senegal Province, Mauritania, Senegal, The Gambia, and Guinea-Bissau, northwest Africa, by M. E. Brownfield and R. R. Charpentier. 2003. 26 p. Available on the web at <http://pubs.usgs.gov/bul/b2207-a/>

Undiscovered, conventional oil and gas resources were assessed in the Senegal Province as part of the U.S. Geological Survey World Petroleum Assessment 2000. Although several total petroleum systems may exist in the province, only one composite total petroleum system, the Cretaceous-Tertiary Composite Total Petroleum System, was defined—with one assessment unit, the Coastal Plain and Offshore Assessment Unit, having sufficient data to allow quantitative assessment.

B 2210-A. NEVADA. Environmental control on water quality; cases studies from Battle Mountain mining district, north-central Nevada, by M. L. W. Tuttle, R. B. Wanty and B. R. Berger. 2003. 30 p. (Geoenvironmental investigations of the Humboldt River basin, northern Nevada; edited by L. L. Stillings.) Available on the web at <http://pubs.usgs.gov/bul/b2210-a/>

In many mining districts, the effects of natural mineralization and historic and modern mining on water quality are difficult to assess. This report presents four case studies from the Battle Mountain mining district, north-central Nevada, that investigate these effects in the context of geologic, hydrologic, and climatic controls.

B 2210-C. NEVADA. Leaching, transport, and methylation of mercury in and around abandoned mercury mines in the Humboldt River basin and surrounding areas, Nevada, by J. E. Gray. 2003. 15 p. (Geoenvironmental investigations of the Humboldt River basin, northern Nevada; edited by L. L. Stillings.) Available on the web at <http://pubs.usgs.gov/bul/b2210-c/>

This report lists mercury and methylmercury concentrations for mine wastes, sediments, and waters collected in and around abandoned mercury mines in western and central Nevada. The report describes the effects of mercury from the mines on the Humboldt River system.

B 2210-D. NEVADA. Historic mills and mill tailings as potential sources of contamination in and near the Humboldt River basin, northern Nevada, by J. T. Nash. 2003. 36 p. (Geoenvironmental investigations of the Humboldt River basin, northern Nevada; edited by L. L. Stillings.) Available on the web at <http://pubs.usgs.gov/bul/b2210-d/>

Reconnaissance field studies of 40 mining districts in and near the Humboldt River basin have identified 83 mills, associated tailings impoundments, and other mineral-processing facilities related to historic mining. All tailings impoundments show evidence of substantial amounts of erosion, and at least 11 tailings dams have been breached by floodwaters that carried alluvial tailings 1 to 15 km down canyons and across alluvial fans. Stormwaters and transported tailings could affect wildlife but probably would affect few, if any, people. Because all identified tailings sites are several kilometers from the Humboldt River and its major tributaries, tailings probably have no measurable effect on water quality in the main stem of the Humboldt River.

B 2212. Rim Sim; a role-play simulation, by R. C. Barrett, Collaborative Decisions; S. L. Frew, The Frew Group; D. G. Howell, H. A. Karl, U.S. Geological Survey; and E. B. Rudin, International Management Consultant. 2003. 113 p. Available on the web at <http://geopubs.wr.usgs.gov/bulletin/b2212/>

A role-play simulation called Rim Sim—a game designed to encourage players to explore the problem of dealing with critical



and complex issues with others from different backgrounds and countries—was developed for an international summit, *Crowding the Rim*, held at Stanford University in August 2001. The summit brought together about 130 participants from Pacific Rim nations to assess environmental and social risks, forecast future changes and plan collaborative strategies for risk assessment and mitigation.

- B 2214. Elastic properties of overpressured and unconsolidated sediments, by M. W. Lee. 2003. 10 p. Available on the web at <http://pubs.usgs.gov/bul/b2214/>

This paper describes a new method of predicting elastic wave velocities by using velocity ratio in the framework of the classic Biot-Gassmann theory. To predict elastic characteristics of highly overpressured sands, the new method uses a variable exponent that depends on differential pressure and the degree of consolidation/compaction.

- B 2217. WASHINGTON. Field guide to hydrothermal alteration in the White River altered area and in the Osceola Mudflow, Washington, by D. A. John, J. J. Rytuba, R. P. Ashley, R. J. Blakely, J. W. Vallance, U.S. Geological Survey; G. R. Newport, Weyerhaeuser Company; and G. R. Heinemeyer, Tucson, AZ. 2003. 52 p. Available on the web at <http://geopubs.wr.usgs.gov/bulletin/b2217>

This one-day field trip examines several styles and features of hydrothermal alteration related to Cenozoic magmatism in the Cascades arcs.

## 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-H. Manganese recycling in the United States in 1998, by T. S. Jones. 2003. p. H1-H9. (Flow studies for recycling metal commodities in the United States.) Available on the web at <http://pubs.usgs.gov/circ/c1196h/>

This report describes the flow and processing of manganese within the U.S. economy in 1998 with emphasis on the extent to which manganese is recycled. In the United States, 218,000 metric tons of manganese was estimated to have been recycled from old scrap, of which 96 percent was from iron and steel scrap. Efficiency of recycling was estimated to be 53 percent, and the recycling rate, 37 percent. Metallurgical loss of manganese was estimated to be about 1.7 times that recycled.

- C 1196-M. Cobalt recycling in the United States in 1998, by K. B. Shedd. 2003. p. M1-M16. (Flow studies for recycling metal commodities in the United States.) Available on the web at <http://pubs.usgs.gov/circ/c1196m/>

This report defines and quantifies the 1998 flow of cobalt-bearing materials in the United States from imports and stock releases through consumption and disposition with particular emphasis on the recycling of industrial scrap and used products. Numerous types of scrap were available for recycling by a wide variety of processes. In 1998, an estimated 32 percent of U.S. cobalt supply was derived from scrap. The ratio of cobalt consumed from new scrap to that from old scrap was estimated to be 50:50.

- C 1196-N. Silver recycling in the United States in 2000, by H. E. Hilliard. 2003. p. N1-N11. (Flow studies for recycling metal commodities in the United States.) Available on the web at <http://pubs.usgs.gov/circ/c1196n/>

In 2000, the global silver supply deficit was more than 3,000 metric tons. In the United States, the silver deficit was filled by destocking, imports, and recycling. Photographic wastes, spent catalysts, and electronic scrap are the major sources of materials for silver recycling. Nearly 1,800 metric tons of silver contained in these materials were available for recycling. An estimated 1,700 tons of silver were recovered from secondary sources in the United States. The U.S. recycling efficiency for old scrap was calculated to have been 97 percent; the recycling rate was estimated to be 32 percent.

- C 1196-O. Cadmium recycling in the United States in 2000, by Jozef Plachy. 2003. p. O1-O9. (Flow studies for recycling metal commodities in the United States.) Available on the web at <http://pubs.usgs.gov/circ/c1196o/>

Domestic recycling of cadmium began in 1989 as a byproduct of processing of spent nickel-cadmium batteries. In 2000, an estimated 13 percent of cadmium consumption in the United States was sourced from recycled cadmium, which is derived mainly from old scrap or, to lesser degree, new scrap. The easiest forms of old scrap to recycle are small spent nickel-cadmium batteries. The amount of cadmium in scrap that was unrecovered in 2000 was estimated to be 2,030 metric tons, and an estimated 285 tons was recovered. Recycling efficiency was estimated to be about 15 percent.

- C 1243. Water in storage and approaches to ground-water management, High Plains Aquifer, 2000, by V. L. McGuire, M. R. Johnson, R. L. Schieffer, J. S. Stanton, S. K. Sebree and I. M. Verstraeten. 2003. 51 p. Available on the web at <http://water.usgs.gov/pubs/circ/2003/circ1243/>

The High Plains Aquifer is the principal source for irrigation and drinking water in a major agricultural area in the Nation. In 2000, the aquifer contained 2,980 million acre-feet of available water. The available water in 2000 was about 200 million acre-feet less than the total available water in the aquifer prior to development of the aquifer for irrigation. Data used to produce this report were collected by local, State, and Federal agencies. This report also summarizes ground-water management approaches implemented by the States that overlie the aquifer.

- C 1244. National landslide hazards mitigation strategy; a framework for loss reduction, by E. C. Spiker and P. L. Gori. 2003. 56 p. Available on the web at <http://pubs.usgs.gov/circ/2003/circ1244/>

This Circular outlines the key elements of a comprehensive and effective national strategy for reducing losses from landslides nationwide and provides an assessment of the status, needs, and associated costs of this strategy. The strategy was developed in response to the rising costs resulting from landslide hazards in the United States and includes activities at the National, State, and local levels, in both the public and private sectors. The U.S. Geological Survey has taken the lead in developing the strategy on behalf of the large multisector, multiagency stakeholder group involved in landslide hazards mitigation. The National Landslide Hazards Mitigation Strategy includes developing new partnerships among government at all levels, academia, and the private sector and ex-



panding landslide research, mapping, assessment, real-time monitoring, forecasting, information management and dissemination, mitigation tools, and emergency preparedness and response. Such a strategy uses new technological advances, enlists the expertise associated with other related hazards such as floods, earthquakes and volcanic activity, and utilizes incentives for the adoption of loss reduction measures nationwide.

- C 1245. Large floods in the United States; where they happen and why, by J. E. O'Connor and J. E. Costa. 2003. 13 p. Available on the web at <http://water.usgs.gov/pubs/circ/2003/circ1245/>

The spatial distribution of large gaged floods throughout the United States shows that the locations of most of the largest flows are related to specific combinations of regional climatology, topography, and basin size. Key factors include the general northward trend of decreasing atmospheric moisture, proximity to oceanic moisture sources such as the Pacific Ocean and the Gulf of Mexico, and orientation of topographic features relative to directions of moisture flow, with the largest flows being at locations where topographically high areas are oriented perpendicular to directions of moisture flow. Additionally, the largest flows in large river basins are primarily caused by persistent climatologic conditions such as seasonal snowfall. In contrast, the largest flows in smaller basins are most commonly the result of intense precipitation due to convective storms.

- C 1248. Geologic studies of mercury by the U. S. Geological Survey, edited by J. E. Gray. 2003. 41 p. Available on the web at <http://pubs.usgs.gov/circ/2003/c1248/>

This Circular is a collection of six short papers related to the study of mercury in coal; concentrations of mercury in sediment, soil, water, and fish collected near mercury and gold mines; and volcanic emissions of mercury. An overview of the mercury geochemical cycle is also given.

Geologic studies of mercury by the U.S. Geological Survey; introduction, by J. E. Gray. p. 1-7.

Mercury in coal and mercury emissions from coal combustion, by R. B. Finkelman. p. 9-11.

CALIFORNIA. Environmental impact of mercury mines in the Coast Ranges, California, by J. J. Rytuba. p. 13-17.

ALASKA. The Southwestern Alaska mercury belt, by J. E. Gray and E. A. Bailey. p. 19-22.

CALIFORNIA. Mercury contamination from hydraulic gold mining in the Sierra Nevada, California, by M. P. Hunerlach and C. N. Alpers. p. 23-27.

NEVADA. Mercury in the Carson River basin, Nevada, by S. J. Lawrence. p. 29-33.

Volcanic emissions of mercury, by T. K. Hinkley. p. 35-37.

- C 1249. Geothermal energy; clean power from the Earth's heat, by W. A. Duffield and J. H. Sass. 2003. 36 p. Available on the web at <http://geopubs.wr.usgs.gov/circular/c1249/>

Geothermal energy currently supplies less than 1 percent of the energy consumed in the United States. This report describes the distribution and nature of geothermal energy, reviews geothermal systems, considers potential resources, and summarizes the role of

earth science information in assessing geothermal resources worldwide.

- C 1250. Proceedings of the Federal interagency workshop on turbidity and other sediment surrogates, April 30-May 2, 2002, Reno, Nevada, edited by J. R. Gray and G. D. Glysson, U.S. Geological Survey. 2003. 56 p. Available on the web at <http://water.usgs.gov/pubs/circ/2003/circ1250/>

Use of turbidity to quantify water clarity and the solid-phase content of surface water is rife with ambiguity, and turbidity measurements can be unreliable and inaccurate. Other suspended-sediment surrogate technologies show promise for providing continuous and reliable measurements of suspended-sediment properties but lack adequate testing and verification. Recommendations from the workshop on issues related to turbidity and other sediment-surrogate technologies will be addressed by the Federal Interagency Subcommittee on Sedimentation.

Introduction to the proceedings of the Federal interagency workshop on turbidity and other sediment surrogates, by J. R. Gray, G. D. Glysson, J. H. Eychaner, and C. W. Anderson, U.S. Geological Survey. p. 5-8.

Breakout session 1; Definition of optical methods for turbidity and data reporting, by A. C. Ziegler, U.S. Geological Survey. p. 9-13.

Breakout session 2; Use of optical properties to monitor turbidity and suspended-sediment concentration, by D. H. Schoellhamer, U.S. Geological Survey. p. 15-16.

Breakout session 3; Computing suspended-sediment records using surrogate measurements, by G. C. Bent and L. A. Freeman, U.S. Geological Survey. p. 17-19.

Breakout session 4; Other fluvial-sediment surrogates, by J. W. Gartner, D. S. Mueller, G. R. Wall, and J. R. Gray, U.S. Geological Survey. p. 21-27.

Summary of blind sediment reference sample measurement session, by M. N. Landers, U.S. Geological Survey. p. 29-30.

Uses of turbidity by states and tribes, by B. A. Pruitt, Nutter and Associates. p. 31-43.

New isokinetic version of LISST technology targets needs of the Federal Subcommittee on Sedimentation, by Y. C. Agarwal, H. C. Pottsmith, Sequoia Scientific, Inc.

Lessons learned from turbidity field monitoring of 12 metropolitan Atlanta streams, by P. D. Ankorn and M. N. Landers, U.S. Geological Survey.

Methods for continuous automated turbidity monitoring in British Columbia, Canada, by J. R. Burke, British Columbia Ministry of Sustainable Resource Management.

Comparison of estimated sediment loads using continuous turbidity measurements and regression analysis, by V. G. Christensen, P. P. Rasmussen, A. C. Ziegler, U.S. Geological Survey.

CALIFORNIA. Continuous turbidity monitoring in streams of northwestern California, by Rand Eads and Jack Lewis, U.S. Forest Service.



## 6 U.S. Geological Survey

Estimation of suspended solids concentrations based on acoustic backscatter intensity; theoretical background, by J. W. Gartner, U.S. Geological Survey.

Total suspended solids data for use in sediment studies, by G. D. Glysson and J. R. Gray, U.S. Geological Survey.

The need for surrogate technologies to monitor fluvial-sediment transport, by J. R. Gray, U.S. Geological Survey.

Biological aspects of turbidity and other optical properties of water, by G. C. Holdren, U.S. Bureau of Reclamation.

Estimation of suspended sediment flux in streams using continuous turbidity and flow data coupled with laboratory concentrations, by Jack Lewis, U.S. Forest Service.

The use of rating (transport) curves to predict suspended sediment concentration; a matter of temporal resolution, by A. J. Horowitz, U.S. Geological Survey.

The contribution of suspended organic sediments to turbidity and sediment flux, by M. A. Madej, Margaret Wilzbach, U.S. Geological Survey; Kenneth Cummins, Colleen Ellis, and Samantha Hadden, Humboldt State University.

ARIZONA. Testing laser-based sensors for continuous, in-situ monitoring of suspended sediment in the Colorado River, Grand Canyon, Arizona, by T. S. Melis, D. J. Topping, U.S. Geological Survey; and D. M. Rubin, Coastal and Marine Geology.

Turbidity calibration standards evaluated from a different perspective, by Kemon Papacosta, APS Analytical Standards.

FLORIDA. Use of acoustic instruments for estimating total suspended solids concentrations in streams; the South Florida experience, by Eduardo Patino and M. L. Byrne, U.S. Geological Survey.

Turbidity studies at the National Water Quality Laboratory, by M. P. Pavelich, U.S. Geological Survey.

OBS calibration and field measurements, by Thad Pratt, Trimbak Parchure, U.S. Army Engineer Research and Development Center.

Uses of turbidity by state agencies, by Bruce Pruitt, Nutter & Associates.

KANSAS. Continuous in-situ measurement of turbidity in Kansas streams, by P. P. Rasmussen, Trudy Bennett, Casey Lee, and V. G. Christensen, U.S. Geological Survey.

KANSAS. Real-time water-quality monitoring in Kansas, by P. P. Rasmussen, V. G. Christensen, and A. C. Ziegler, U.S. Geological Survey.

Turbidity instrumentation; an overview of today's available technology, by Mike Sadar, Hach Company.

Ten years of continuous suspended-sediment concentration monitoring in San Francisco Bay and delta, by D. H. Schoellhamer, P. A. Buchanan, and N. K. Ganju, U.S. Geological Survey.

Managing turbidity, suspended solids and bedded sediments under the Clean Water Act; the EPA perspective, by W. F. Swietlik, U.S. Environmental Protection.

OREGON. The advantage of continuous turbidity monitoring; a lesson from the North Santiam River basin, Oregon, 1998-2002, by M. A. Uhrich, U.S. Geological Survey.

OREGON. Determination of total and clay suspended-sediment loads from instream turbidity data in the North Santiam River basin, Oregon; 1998-2000, by M. A. Uhrich, U.S. Geological Survey.

Guidelines and standard procedures for monitoring turbidity, by R. J. Wagner, U.S. Geological Survey.

Turbidity as a surrogate to estimate the effluent suspended sediment concentration of sediment controls at a construction site in the southeastern United States, by Richard Warner, University of Kentucky; and Terry Sturm, Georgia Institute of Technology.

Surrogate techniques for suspended-sediment measurement, by D. G. Wren, University of Mississippi; and R. A. Kuhnle, U.S. Department of Agriculture.

Issues related to use of turbidity measurements as a surrogate for suspended sediment, by A. C. Ziegler, U.S. Geological Survey.

C 1260. Heat as a tool for studying the movement of ground water near streams, edited by D. A. Stonestrom and Jim Constantz; U.S. Geological Survey. 2003. 96 p. Available on the web at <http://pubs.water.usgs.gov/circ1260/>

This Circular, explains the principles of using heat to trace the movement of ground water to and from streams. Case studies from Arizona, California, Nevada, and Oregon illustrate the use of relatively simple temperate measurements to deduce surface-water/ground-water interactions between streams and their adjacent sediments. The seven case-study chapters show the manner in which information on stream/ground-water interactions can be used to better understand and manage hydrological and biological resources.

1. Heat as a tracer of water movement near streams, by Jim Constantz and D. A. Stonestrom, U.S. Geological Survey. p. 1-6.

2. The Rio Grande; competing demands for a desert river, by J. R. Bartolino, U.S. Geological Survey. p. 7-16.

3. CALIFORNIA. Heat tracing in the streambed along the Russian River of Northern California, by Jim Constantz, U.S. Geological Survey; James Jasperse, Donald Seymour, Sonoma County Water Agency; and G. W. Su, Lawrence Berkeley National Laboratory. p. 17-20.

4. The Santa Clara River; the last natural river of Los Angeles, by Jim Constantz, M. H. Cox, U.S. Geological Survey; Lisa Sarma, URS Corporation; and Greg Mendez, U.S. Geological Survey. p. 21-27.

5. OREGON. Heat tracing in streams in the central Willamette Basin, Oregon, by Terrence Conlon, Karl Lee, and John Risley, U.S. Geological Survey. p. 29-34.

6. CALIFORNIA. Trout Creek; evaluating ground-water and surface water exchange along an alpine stream, Lake Tahoe, California, by K. K. Allander, U.S. Geological Survey. p. 35-45.

7. ARIZONA. Combined use of heat and soil-water content to determine stream/ground-water exchanges, Rillito Creek, Tucson, Arizona, by J. P. Hoffmann, K. W. Blasch, U.S. Geological Survey; and T. P. Ferré, University of Arizona. p. 47-55.



8. NEVADA. Trout Creek; estimating flow duration and seepage losses along an intermittent stream tributary to the Humboldt River, Lander and Humboldt counties, Nevada, by D. E. Prudic, R. G. Niswonger, J. L. Wood, and K. K. Henkelman, U.S. Geological Survey. p. 57-71.

A. Appendix A; Determining temperature and thermal properties for heat-based studies of surface-water ground-water interactions, by D. A. Stonestrom and K. W. Blasch, U.S. Geological Survey. p. 73-80.

B. Appendix B; Modeling heat as a tracer to estimate streambed seepage and hydraulic conductivity, by R. G. Niswonger and D. E. Prudic, U.S. Geological Survey. p. 81-89.

C 1262. Ground water in freshwater-saltwater environments of the Atlantic Coast, by P. M. Barlow. 2003. 113 p. Available on the web at <http://water.usgs.gov/pubs/circ/2003/circ1262/>

This report describes the occurrence and flow of freshwater and saltwater in ground-water systems of the Atlantic coastal zone; reviews the causes, modes, and management of saltwater intrusion along the Atlantic coast; and illustrates some of the mechanisms of ground-water discharge and contaminant loading to coastal ecosystems. The report illustrates traditional approaches for monitoring and managing saltwater intrusion and highlights some of the innovative water-management approaches being used to enhance the sustainability of coastal ground-water resources, such as desalination and aquifer storage and recovery systems.

## 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.

## 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 0070-03. Heavy oil and natural bitumen; strategic petroleum resources, by R. F. Meyer and E. D. Attanasi. 2003. 2 p. Available on the web at <http://pubs.usgs.gov/fs/fs070-03/>

FS 0085-03. 2002 assessment of undiscovered oil and gas resources; Cretaceous Travis Peak and Hosston formations, Jurassic Smackover Interior Salt Basins total petroleum system, Louisiana-Mississippi Salt Basins Province, northern Gulf Coast region, by T. S. Dyman, S. M. Condon, R. R. Charpentier, T. A. Cook, R. A. Crovelli, T. R. Klett, M. D. Lewan, R. M. Pollastro, C. J. Schenk and J. W. Schmoker. 2003. 2 p. Available on the web at <http://pubs.usgs.gov/fs/fs-085-03/>

FS 0087-03. ShakeMap; a tool for earthquake response, by David Wald, Lisa Wald, Bruce Worden and Jim Goltz. 2003. 4 p. Available on the web at <http://pubs.usgs.gov/fs/fs-087-03/>

FS 0107-03. ALASKA. The natural dispersal of metals to the environment in the Wulik River-Ikalukrok Creek area, western Brooks Range, Alaska, by K. D. Kelley, U.S. Geological Survey; and Travis Hudson, Applied Geology, Inc. 2003. 4 p.



## 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](mailto: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 non-ferrous 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.

## NONMETALLIC MINERAL PRODUCTS INDUSTRY INDEXES

The Nonmetallic Mineral 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 commodities 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 Mineral Commodity Summaries for 1996 to 2003 are available online at <http://minerals.usgs.gov/minerals/pubs/mcs/>.

### 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 Gloria Ruggiero 703-648-7790. 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 (tele-

phone 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 99-4208-A. ARKANSAS. Status of water levels in aquifers in the Nacatoch Sand of southwestern and northeastern Arkansas and the Tokio Formation of southwestern Arkansas, 1999, by T. P. Schrader. Prepared in cooperation with the Arkansas Soil and Water Conservation Commission and the Arkansas Geological Commission. 1999. 23 p. (NC, Da, M.) \$4.

WRI 02-4189. OREGON. Water-quality and algal conditions in the Clackamas River basin, Oregon, and their relations to land and water management, by K. D. Carpenter. 2003. 114 p., 1 over-size sheet, scale 1:750,000 (1 inch = about 12 miles). (NC, Da, M.) \$4.

WRI 02-4211. ARIZONA. Ground-water, surface-water, and water-chemistry data, Black Mesa area, northeastern Arizona; 2000-2001, and performance and sensitivity of the 1988 USGS numerical model of the N Aquifer, by B. E. Thomas. Prepared in cooperation with the Arizona Department of Water Resources and Bureau of Indian Affairs. 2002. 75 p. (NC, Da, M.) \$4. Available on the web at <http://az.water.usgs.gov/pubs/02-4211intro.html>

WRI 03-4003. NEBRASKA. Streambed adjustment and channel widening in eastern Nebraska, by D. L. Rus, B. J. Dietsch and Andrew Simon. Prepared in cooperation with the Nebraska Department of Roads, Nebraska Department of Natural Resources, Lower Platte South Natural Resources District, Papio-Missouri River Natural Resources District, U.S. Army Corps of Engineers, and the U.S. Department of Agriculture, National Sedimentation Laboratory. 2003. 64 p. (NC, Da, M.) \$4. Available on the web at <http://water.usgs.gov/pubs/wri/wri034003/>

WRI 03-4027. External quality-assurance results for the National Atmospheric Deposition Program/National Trends Network, 1997-99, by J. D. Gordon, N. E. Latysh and S. J. Lindholm. 2003. 75 p. (NC, Da, M.) \$4.

WRI 03-4028. UTAH. Quality and sources of shallow ground water in areas of recent residential development in Salt Lake Valley, Salt Lake County, Utah, by S. A. Thiros. National Water-Quality Assessment Program. 2003. 74 p. (NC, Da, M.) \$4.

WRI 03-4029. UTAH. Hydrogeology of shallow basin-fill deposits in areas of Salt Lake Valley, Salt Lake County, Utah, by S. A. Thiros. National Water-Quality Assessment Program. 2003. 23 p., 1 over-size sheet. (NC, Da, M.) \$4. Available on the web at <http://water.usgs.gov/pubs/wri/wri034029/>

WRI 03-4035. Residence times and nitrate transport in groundwater discharging to streams in the Chesapeake Bay watershed, by B. D.



Lindsey, S. W. Phillips, C. A. Donnelly, G. K. Speiran, L. N. Plummer, John-Karl Böhlke, M. J. Focazio, W. C. Burton and Eurybiades Busenberg. Prepared in cooperation with the Chesapeake Bay Program. 2003. 201 p. (NC, Da, M.) \$4. Available on the web at  
<http://pa.water.usgs.gov/reports/wrir03-4035.pdf>

Approaches for ground-water dating, by L. N. Plummer, John-Karl Böhlke and Eurybiades Busenberg. Prepared in cooperation with the Chesapeake Bay Program. p. 12-24.

Sources, transport, and reaction of nitrate, by John-Karl Böhlke. Prepared in cooperation with the Chesapeake Bay Program. p. 25-39. Available on the web at  
<http://pa.water.usgs.gov/reports/wrir03-4035.pdf>

Springs in the Chesapeake Bay watershed, by M. J. Focazio. Prepared in cooperation with the Chesapeake Bay Program. p. 39-49.

Upper Pocomoke River watershed, by S. W. Phillips and C. A. Donnelly. Prepared in cooperation with the Chesapeake Bay Program. p. 50-70.

VIRGINIA. Polecat Creek watershed, Virginia, by G. K. Speiran. Prepared in cooperation with the Chesapeake Bay Program. p. 71-87.

VIRGINIA. Muddy Creek watershed, Virginia, by G. K. Speiran. Prepared in cooperation with the Chesapeake Bay Program. p. 87-107.

East Mahantango Creek watershed, by B. D. Lindsey and W. C. Burton. Prepared in cooperation with the Chesapeake Bay Program. p. 108-142.

WRI 03-4037. ARIZONA. A stage-normalized function for the synthesis of stage-discharge relations for the Colorado River in Grand Canyon, Arizona, by S. M. Wiele and Margaret Torizzo. Prepared in cooperation with the Grand Canyon Monitoring and Research Center. 2003. 23 p. (NC, Da, M.) Available on the web at  
<http://az.water.usgs.gov/pubs/03-4037intro.html>

WRI 03-4045. COLORADO. Comprehensive water quality of the Boulder Creek watershed, Colorado, during high-flow and low-flow conditions, 2000, edited by S. F. Murphy, P. L. Verplanck and L. B. Barber. 2003. 198 p. (NC, Da, M.) \$4.

1. COLORADO. Environmental setting and hydrology of the Boulder Creek watershed, Colorado, by S. F. Murphy, L. B. Barber, P. L. Verplanck and D. A. Kinner. p. 5-26.

2. Delineation and characterization of the Boulder Creek watershed and its sub-watersheds, by D. A. Kinner. p. 27-39.

3. COLORADO. Basic water quality in the Boulder Creek watershed, Colorado, during high-flow and low-flow conditions, 2000, by S. F. Murphy, J. J. Shelley, J. A. Stout and E. P. Mead. p. 41-70.

4. COLORADO. Inorganic water chemistry of the Boulder Creek watershed, Colorado, during high-flow and low-flow conditions, 2000, by P. L. Verplanck, R. B. McCleskey and D. R. Roth. p. 71-102.

5. COLORADO. Natural and contaminant organic compounds in the Boulder Creek watershed, Colorado during high-flow and

low-flow conditions, 2000, by L. B. Barber, E. T. Furlong, Stefanie Keefe, G. K. Brown and J. D. Cahill. p. 103-144.

6. COLORADO. Pesticides in the Boulder Creek watershed, Colorado, during high-flow and low-flow conditions, 2000, by M. W. Sandstrom. p. 145-172.

7. COLORADO. Quantitative mineralogy and particle-size distribution of bed sediments in the Boulder Creek watershed, Colorado, by D. E. Kile and D. D. Eberl. p. 173-184.

8. COLORADO. Headwater catchments of North Boulder Creek, Colorado, by M. W. Williams, E. W. Hood and Nel Caine. p. 185-198.

WRI 03-4080. IOWA. Simulation of ground-water flow in the Cedar River Alluvium, Northwest Black Hawk County and Southwest Bremer County, Iowa, by B. D. Schaap, M. E. Savoca and M. J. Turco. Prepared in cooperation with Black Hawk County, Iowa. 2003. 42 p. (NC, Da, M.) \$4.

WRI 03-4104. ARIZONA. Variations in sand storage measured at monumented cross sections in the Colorado River between Glen Canyon Dam and Lava Falls Rapid, northern Arizona, 1992-99, by M. E. Flynn and N. J. Hornewer. Prepared in cooperation with the Grand Canyon Monitoring and Research Center. 2003. 39 p. (NC, Da, M.) \$4.

WRI 03-4119. MARYLAND. Preliminary assessment of microbial communities and biodegradation of chlorinated volatile organic compounds in wetlands at Cluster 13, Lauderick Creek area, Aberdeen Proving Ground, Maryland, by M. M. Lorah, M. A. Voytek and T. A. Spencer. Prepared in cooperation with the U.S. Army Garrison, Aberdeen Proving Ground, Environmental Conservation and Restoration Division, Aberdeen Proving Ground, Maryland. 2003. 19 p. (NC, Da, M.) \$4.

WRI 03-4120. IOWA. Main-channel slopes of selected streams in Iowa for estimation of flood-frequency discharges, by D. A. Eash. Prepared in cooperation with the Iowa Department of Transportation and the Iowa Highway Research Board. 2003. 215 p. (NC, Da, M.) \$4.

WRI 03-4123. A summary report of sediment processes in Chesapeake Bay and watershed, edited by Michael Langland and Thomas Cronin. 2003. One CD-ROM. (NC, Da, M.) \$4. Available on the web at  
<http://pa.water.usgs.gov/reports/wrir03-4123.pdf>

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

1. Introduction, by Thomas Cronin and Michael Langland. p. 21-27.

2. Watershed sediment sources, by Allen Gellis, Sean Smith and Steven Stewart. p. 29-33.

3. Watershed sediment transport, by Sean Smith, Michael Langland and Robert Edwards. p. 34-41.

4. Watershed sediment deposition and storage, by Julia Herman, Clifford Hupp and Michael Langland. p. 42-48.

5. Estuarine sediment sources, by Thomas Cronin, Jeff Halka, Scott Phillips and Owen Bricker. p. 49-60.



6. Estuarine sediment transport, deposition, and sedimentation, by Thomas Cronin, Lawrence Sanford, Michael Langland, Debra Willard and Casey Saenger. p. 61-79.
7. Integrated approaches to sediment studies, by Sean Smith, Julia Herman, Thomas Cronin, Gregory Schwarz, Michael Langland, Kenn Patison and Lewis Linker. p. 80-97.
- WRI 03-4124. DELAWARE. Development, calibration, and analysis of a hydrologic and water-quality model of the Delaware inland bays watershed, by A. L. Gutiérrez-Magness and J. P. Raffensperger. Prepared in cooperation with the Delaware Department of Natural Resources and Environmental Control and the Delaware Geological Survey. 2003. 42 p. (NC, Da, M.) \$4.
- WRI 03-4133. MASSACHUSETTS. Diffusion and drive-point sampling to detect ordnance-related compounds in shallow ground water beneath Snake Pond, Cape Cod, Massachusetts, 2001-02, by D. R. LeBlanc. Prepared in cooperation with the Army National Guard Bureau. 2003. 20 p. (NC, Da, M.) \$4.
- WRI 03-4138. PENNSYLVANIA, DELAWARE. Simulation of streamflow and water quality in the Red Clay Creek subbasin of the Christina River basin, Pennsylvania and Delaware, 1994-98, by L. A. Senior and E. H. Koerkle. Prepared in cooperation with the Delaware River Basin Commission; Delaware Department of Natural Resources and Environmental Control; Pennsylvania Department of Environmental Protection. 2003. 119 p. (NC, Da, M.) \$4. Available on the web at <http://pa.water.usgs.gov/reports/wrir03-4138.pdf>
- WRI 03-4139. Methods of analysis by the U.S. Geological Survey National Water Quality Laboratory; determination of organophosphate pesticides in whole water by continuous liquid-liquid extraction and capillary-column gas chromatography with flame photometric detection, by V. K. Jha and D. S. Wydoski. 2003. 26 p. (NC, Da, M.) \$4.
- WRI 03-4147. NORTH CAROLINA. Low-flow characteristics and profiles for the Rocky River in the Yadkin-Pee Dee River basin, North Carolina, through 2002, by J. C. Weaver and J. M. Fine. Prepared in cooperation with the Water and Sewer Authority of Cabarrus County, Charlotte-Mecklenburg Utilities, and Union County. 2003. 50 p., 1 over-size sheet. (NC, Da, M.) \$4.
- WRI 03-4148. SOUTH DAKOTA. Water and sediment quality of the Lake Andes and Choteau Creek basins, South Dakota, 1983-2000, by S. K. Sando and K. M. Neitzert. Prepared in cooperation with the Bureau of Reclamation. 2003. 114 p. (NC, Da, M.) \$4.
- WRI 03-4158. TEXAS. Summary of extensometric measurements in El Paso, Texas, by C. E. Heywood. Prepared in cooperation with the International Boundary and Water Commission; United States Section. 2003. 11 p. (NC, Da, M.) \$4.
- WRI 03-4165. MISSOURI. Geohydrologic framework, ground-water hydrology, and water use in the Gasconade River basin upstream from Jerome, Missouri, including the Fort Leonard Wood Military Reservation, by D. N. Mugel and J. L. Imes. Prepared in cooperation with the Fort Leonard Wood Military Reservation, Directorate of Public Works, Environmental Division. 2003. 86 p. (NC, Da, M.) \$4.
- WRI 03-4174. Methods of analysis by the U. S. Geological Survey National Water Quality Laboratory; evaluation of alkaline persulfate digestion as an alternative to Kjeldahl digestion for determination of total and dissolved nitrogen and phosphorous in water, by C. J. Patton and J. R. Kryskalla. 2003. 33 p. (NC, Da, M.) \$4.
- WRI 03-4175. TENNESSEE. Ground-water levels and water-quality data for wells in the Crumpton Creek area near Arnold Air Force Base, Tennessee, November 2001 to January 2002, by S. D. Williams. Prepared in cooperation with the U.S. Air Force, Arnold Air Force Base. 2003. 28 p. (NC, Da, M.) \$4. Available on the web at <http://water.usgs.gov/pubs/wri/wri034175/>
- WRI 03-4176. TENNESSEE. Flood-frequency prediction methods for unregulated streams of Tennessee, 2000, by G. S. Law and G. D. Tasker. Prepared in cooperation with the Tennessee Department of Transportation. 2003. 79 p. (NC, Da, M.) \$4. Available on the web at <http://water.usgs.gov/pubs/wri/wri034176/>
- WRI 03-4180. KENTUCKY. Estimating the magnitude of peak flows for streams in Kentucky for selected recurrence intervals, by G. A. Hodgkins and G. R. Martin. Prepared in cooperation with the Kentucky Transportation Cabinet, Department of Highways. 2003. 68 p., 1 over-size sheet. (NC, Da, M.) \$4. Available on the web at <http://pubs.water.usgs.gov/wri034180>
- WRI 03-4181. ALABAMA, TENNESSEE. Shallow ground-water quality in agricultural areas of northern Alabama and middle Tennessee, 2000-2001, by J. A. Kingsbury. National Water-Quality Assessment Program. 2003. 38 p. (NC, Da, M.) \$4.
- WRI 03-4189. ARIZONA. Hydrogeology of the D Aquifer and movement and ages of ground water determined from geochemical and isotopic analyses, Black Mesa area, northeastern Arizona, by Margot Truini and S. A. Longworth. Prepared in cooperation with the Bureau of Indian Affairs. 2003. 38 p. (NC, Da, M.) \$4. Available on the web at <http://water.usgs.gov/pubs/wri/wri034189/>
- WRI 03-4191. MASSACHUSETTS, NEW HAMPSHIRE. Nutrient and chlorophyll relations in selected streams of the New England coastal basins in Massachusetts and New Hampshire, June-September 2001, by M. L. Riskin, J. R. Deacon, M. L. Liebman and K. W. Robinson. National Water-Quality Assessment Program. 2003. 16 p. (NC, Da, M.) \$4.
- WRI 03-4194. NORTH CAROLINA. Suspended sediment and bed load in three tributaries to Lake Emory in the upper Little Tennessee River basin, North Carolina, 2000-02, by C. J. Oblinger. Prepared in cooperation with Macon County, North Carolina. 2003. 24 p. (NC, Da, M.) \$4.
- WRI 03-4206. IDAHO. Quantification of metal loads and assessment of metal sources in upper Beaver Creek watershed, Shoshone County, Idaho, May and June 2002, by D. S. Ott and D. W. Clark. Prepared in cooperation with the U.S. Forest Service and Bureau of Land Management. 2003. 32 p. (NC, Da, M.) Available on the web at <http://id.water.usgs.gov/PDF/wri034206/index.html>
- WRI 03-4225. MAINE. August median streamflow on ungaged streams in eastern Aroostook County, Maine, by P. J. Lombard, G. D. Tasker and M. G. Nielsen. Prepared in cooperation with the Aroostook Water and Soil Management Board. 2003. 20 p. (NC, Da, M.) \$4. Available on the web at <http://pubs.water.usgs.gov/wri034225/>



WRI 03-4227. NEVADA. Ground-water use, locations of production wells, and areas irrigated using ground water in 1998, middle Humboldt River basin, north-central Nevada, by R. W. Plume. Prepared in cooperation with Nevada Department of Conservation and Natural Resources. 2003. 16 p., 1 over-size sheet. (NC, Da, M.) \$4. Available on the web at <http://pubs.water.usgs.gov/wri034227/>

WRI 03-4237. MISSOURI. Simulation of hydrodynamics, temperature, and dissolved oxygen in Table Rock Lake, Missouri, 1996-1997, by W. R. Green, J. M. Galloway, J. M. Richards and E. A. Wesolowski. Prepared in cooperation with the Missouri Department of Conservation. 2003. 35 p. (NC, Da, M.) \$4.

WRI 03-4241. COLORADO. Atmospheric deposition of nutrients, pesticides, and mercury in Rocky Mountain National Park, Colorado, 2002, by M. A. Mast, D. H. Campbell, G. P. Ingersoll, W. T. Foreman and D. P. Krabbenhoft. Prepared in cooperation with the Rocky Mountain National Park; Rocky Mountains Cooperative Ecosystems Studies Unit. 2003. 15 p. (NC, Da, M.) Available on the web at <http://pubs.water.usgs.gov/WRI034241>

WRI 03-4245. NEVADA, CALIFORNIA. Estimated ground-water withdrawals from the Death Valley regional flow system, Nevada and California, 1913-98, by M. T. Moreo, K. J. Halford, R. J. La Camera and R. J. Lacznik. Prepared in cooperation with the U.S. Department of Energy, National Nuclear Security Administration, Nevada Site Office. 2003. 28 p. Available on the web at <http://pubs.water.usgs.gov/wri034245>

WRI 03-4282. NORTH DAKOTA, MINNESOTA, SOUTH DAKOTA. Estimation of monthly evaporation from Lake Ashtabula in North Dakota, Orwell Lake in Minnesota, and Lake Traverse in Minnesota and South Dakota, 1931-2001, by K. C. Vining. Prepared in cooperation with the Bureau of Reclamation. 2003. 14 p. (NC, Da, M.) \$4. Available on the web at <http://water.usgs.gov/pubs/wri/wri034282/>

## 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 97-0470-J. Maps showing geology, oil and gas fields, and geologic provinces of the Arctic, by F. M. Persits and G. F. Ulmishek. One CD-ROM. (NC, Da, M.) Available on the web at <http://pubs.usgs.gov/of/1997/ofr-97-470/OF97-470J/>

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 00-0263. VIRGINIA. A hiker's guide to the geology of Old Rag Mountain, Shenandoah National Park, Virginia, by Paul Hackley. 13 p. (NC, Da, M; Virginia Div. of Mineral Resources, Natural Resources Bldg. Alderman and McCormick Rds., P.O. Box 3667, Charlottesville, VA 22903.) Available on the web at <http://pubs.usgs.gov/of/2000/of00-263/>

OF 01-0190. The STRATAFORM Project; U. S. Geological Survey geotechnical studies, by D. L. Minasian, H. J. Lee, Jaques Locat, K. M. Orzech, G. R. Martz and Kenneth Israel. (NC, Da, M.) Available on the web at <http://geopubs.wr.usgs.gov/open-file/of01-190/>

OF 01-0470. NEW YORK, NEW JERSEY. Photographs of the sea floor offshore of New York and New Jersey, by Bradford Butman, B. T. Gutierrez, Marilyn Buchholtz ten Brink, W. C. Schwab, D. S. Blackwood, E. L. McCray and T. J. Middleton. One DVD-ROM. (NC, Da, M; New York State Geol. Surv., Library, 3128 Cultural Education Ctr., Empire State Plaza, Albany, NY 12230.) \$45. Available on the web at <http://pubs.usgs.gov/of/2001/of01-470/>

This disc has been produced in accordance with the UDF Standard and is therefore capable of being read on any computing platform that has a DVD drive.

OF 01-0507. WASHINGTON. Archive of the sidescan-sonar data and DGPS navigation data collected during USGS cruise 98008; Washington shelf, 24 June-5 July, 1998, by Patricia McCrory, W. W. Danforth, T. F. O'Brien and D. S. Foster. Two discs. (NC, Da, M.) DVD-R disc-on-demand. For single disc \$60; each additional \$30.

These discs have been produced in accordance with the UDF Standard and are therefore capable of being read on any computing platform that has a DVD drive.

OF 02-0219. Landslide susceptibility map of Tegucigalpa, Honduras, by Ed Harp. 2 over-size sheets, scale 1:15,000 (1 inch = 1,250 feet). (NC, Da, M.) Available on the web at <http://pubs.usgs.gov/of/2002/ofr-02-219/>



OF 02-0381. SOUTH DAKOTA, NORTH DAKOTA. Compilation of data to support development of a pesticide management plan by the Sisseton-Wahpeton Sioux Tribe, South and North Dakota, by R. F. Thompson. Prepared in cooperation with the U.S. Environmental Protection Agency; Sisseton-Wahpeton Sioux Tribe. 25 p., two CD-ROMs. (NC, Da, M.) (Disc-on-demand.) \$55.

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

OF 02-0421. FLORIDA. Archive of boomer seismic reflection data collected during USGS cruise 97KEY01, upper and middle Florida Keys, 12 October-1 November, 1997, by G. M. Peery, Barbara Lidz and D. S. Wiese. Two discs. (NC, Da, M.) DVD-R disc-on-demand. Single disc \$60; each additional \$30.

These discs have been produced in accordance with the UDF Standard and are therefore capable of being read on any computing platform that has a DVD drive.

OF 02-0437. MARYLAND, VIRGINIA, WEST VIRGINIA. Digital geologic map and database of the Frederick 30 × 60 minute quadrangle, Maryland, Virginia, and West Virginia, by Scott Southworth, D. K. Brezinski, A. A. Drake, Jr., W. C. Burton, R. C. Orndorff, A. J. Froelich, J. E. Reddy and Danielle Denenny. 79 p., 2 over-size sheets, scale 1:100,000 (1 inch = about 1.6 miles). (NC, Da, M.) Available on the web at <http://pubs.usgs.gov/of/2002/of02-437/>

OF 03-0002. Texture, carbonate content, and preliminary maps of surficial sediments of the Flower Garden Banks area, northwestern Gulf of Mexico outer shelf, by K. M. Scanlon, S. D. Ackerman and J. E. Rozycki. One CD-ROM. (NC, Da, M.) \$32. Available on the web at <http://pubs.usgs.gov/of/2003/of03-002/>

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 03-0084. CALIFORNIA. Data report for the main line of the PSINE seismic survey across the San Andreas Fault and SAFOD Site near Parkfield, California, by R. D. Catchings, M. R. Goldman, M. J. Rymer, G. Gandhok and G. S. Fuis. 42 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/of03-84/>

OF 03-0110. CALIFORNIA. Cruise report for A1-02-SC Southern California CABRILLO Project, earthquake hazards task, by W. R. Normark, M. A. Fisher, C. E. Gutmacher, Ray Sliter, Lori Hibbeler, Beth Feingold and J. A. Reid. 68 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/of03-110/>

OF 03-0118. ALASKA. Methodology and results for the assessment of oil and gas resources, National Petroleum Reserve, Alaska, by J. H. Schuenemeyer. 201 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/of03-118/>

OF 03-0140. IDAHO. Final report; VETEM (Very Early Time Electromagnetic) system survey of Pit 4 and Pit 10 subsurface disposal area, Radioactive Waste Management Complex, Idaho National Engineering and Environmental Laboratory, Idaho Falls, ID, by J. D. Abraham, D. V. Smith and D. L. Wright. 43 p. (NC, M, Da; Idaho Geol. Surv., Univ. of Idaho Campus, Morrill Hall, Room 332, Moscow, ID 83843.) Available on the web at <http://pubs.usgs.gov/of/2003/ofr-03-140/>

OF 03-0142. FLORIDA. Results of test-hole drilling in well-field areas north of Tampa, Florida, by C. B. Hutchinson. Prepared in cooperation with the Southwest Florida Water Management District. 38 p. Available on the web at [http://fl.water.usgs.gov/Abstracts/ofr03\\_142\\_hutchinson.html](http://fl.water.usgs.gov/Abstracts/ofr03_142_hutchinson.html)

OF 03-0148. NEW MEXICO. Questa baseline and pre-mining ground-water-quality investigation; 2, Low-flow (2001) and snowmelt (2002) synoptic/tracer water chemistry for the Red River, New Mexico, by R. B. McCleskey, D. K. Nordstrom, J. I. Steiger, B. A. Kimball and P. L. Verplanck. Prepared in cooperation with the New Mexico Environment Department. 166 p. (NC, Da, M.) \$42.

OF 03-0150. UTAH, IDAHO. Geophysical survey of Bear Lake, Utah-Idaho, September 2002, by J. F. Denny and S. M. Colman. One CD-ROM. (NC, Da, M.) \$32. Available on the web at <http://pubs.usgs.gov/of/2003/of03-150/>

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 03-0151. NEVADA. GIS surface effects map archive, Nevada Test Site, Nevada, by D. N. Grasso. Prepared in cooperation with the U.S. Department of Energy. 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 03-0172. User's manual for the National Water-Quality Assessment Program Invertebrate Data Analysis System (IDAS) software; version 3, by T. F. Cuffney. National Water-Quality Assessment Program. 103 p. (NC, Da, M.) \$4. Available on the web at <http://nc.water.usgs.gov/reports/ofr03172/>

OF 03-0207. KENTUCKY. Geochemical data from New Albany Shale, Kentucky; a study in metal mobility during weathering of black shales, by M. L. W. Tuttle, G. N. Breit and M. B. Goldhaber. 57 p. (NC, M, Da; Kentucky Geol. Surv., Univ. of Kentucky, 311 Breckinridge Hall, Lexington, KY 40506; Pirth Geol. Library, 100 Bowman Hall, Univ. of Kentucky, Lexington, KY 40506.) Avail-





able on the web at

<http://pubs.usgs.gov/of/2003/ofr-03-207/>

OF 03-0210. Determining the toxicity potential of mine-waste piles, by K. S. Smith, T. R. Wildeman, L. M. Choate, S. F. Diehl, D. L. Fey, P. L. Hageman, J. F. Ranville, Rosalia Rojas and B. D. Smith. 48 p. (NC, Da, M.) Available on the web at

<http://pubs.usgs.gov/of/2003/ofr-03-210/>

OF 03-0212. LakeVOC; a deterministic model to estimate volatile organic compound concentrations in reservoirs and lakes, by D. A. Bender, W. E. Asher and J. S. Zogorski. National Water-Quality Assessment Program. 32 p. (NC, Da, M.) \$72. Available on the web at

<http://water.usgs.gov/pubs/of/2003/ofr03-212/ofr03212.html>

OF 03-0220. Significant metalliferous and selected non-metalliferous lode deposits, and selected placer districts for Northeast Asia, by Sodov Ariunbileg, G. V. Biryul'kin, Jamba Byamba, Y. V. Davydov, Gunchin Dejidmaa, E. G. Distanov, Dangindorjiin Dorjgotov, G. N. Gamyarin, Ochir Gerel, V. Y. Fridovskiy, Ayurzana Gotovsuren, D. H. Hwang, A. P. Kochnev, A. V. Kostin, M. I. Kuzmin, S. A. Letunov, Li Jiliang, Li Xujun, G. D. Malceva, V. D. Melnikov, Valeriy Nikitin, A. A. Obolenskiy, Masatsugu Ogasawara, Demberel Orolmaa, L. M. Parfenov, N. V. Popov, A. V. Prokopiev, Vladimir Ratkin, S. M. Rodionov, Z. V. Seminskiy, V. I. Shpikerman, A. P. Smelov, V. I. Sotnikov, A. V. Spiridonov, V. V. Stogniy, Sadahisa Sudo, Sun Fengyue, Sun Jiapeng, Sun Weizhi, V. M. Supletsov, V. F. Timofeev, O. A. Tyan, V. G. Vetluzhskikh, Xi Aihua, Y. V. Yakovlev, Yan Hongquan, V. I. Zhizhin, N. N. Zinchuk, L. M. Zorina, W. J. Nokleberg, T. V. Bounaeva, R. J. Miller, Z. V. Seminskiy and M. F. Diggles. Prepared in collaboration with the Russian Academy of Sciences; Mongolian Academy of Sciences; Jilin University, Changchun Branch; Korean Institute of Geoscience and Mineral Resources; and Geological Survey of Japan. One CD-ROM. (NC, Da, M.) \$32. Available on the web at

<http://geopubs.wr.usgs.gov/open-file/of03-220/>

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 03-0225. Generalized lithology and lithochemical character of near-surface bedrock in the New England region, by G. R. Robinson, Jr. and K. E. Kapo. 60 p. (NC, Da, M.) Available on the web at

<http://pubs.usgs.gov/of/2003/of03-225/>

OF 03-0226. TEXAS. Helicopter electromagnetic and magnetic survey data and maps, Seco Creek area, Medina and Uvalde counties, Texas, by B. D. Smith, D. V. Smith, P. L. Hill and V. F. Labson. Prepared in cooperation with the Edwards Aquifer Authority. 53 p., 1 over-size sheet. (NC, Da, M; Bureau of Economic Geol., Univ. of Texas at Austin, University Station, Box X, Austin, TX 78713-7508.) Available on the web at

<http://pubs.usgs.gov/of/2003/ofr-03-226/>

OF 03-0235. MASSACHUSETTS. High-resolution seismic-reflection surveys in the nearshore of outer Cape Cod, Massachusetts, by D. S. Foster and L. J. Poppe. 22 p. (NC, Da, M.) Available on the web at

<http://pubs.usgs.gov/of/2003/of03-235/>

OF 03-0243. So you want to stop bluff erosion? You'd better plan ahead; field trip, April 12, 2003; Assateague shelf and shore workshop 2003, by Curt Larsen and Inga Clark. (NC, Da, M.) Available on the web at

<http://pubs.usgs.gov/of/2003/of03-243/>

OF 03-0246. VIRGINIA. Aquifer susceptibility in Virginia; data on chemical and isotopic composition, recharge temperature, and apparent age of water from wells and springs, 1998-2000, by D. L. Nelms and G. E. Harlow, Jr. Prepared in cooperation with Virginia Department of Health, Office of Drinking Water. 101 p. (NC, Da, M.) Available on the web at

<http://water.usgs.gov/pubs/of/2003/ofr03-246/ofr03-246.htm>

OF 03-0250. CALIFORNIA. Bed-sediment grain-size and morphologic data from Suisun, Grizzly, and Honker bays, CA, 1998-2002, by M. A. Hampton, N. P. Snyder, J. L. Chin, D. W. Allison and D. M. Rubin. 25 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/of03-250/>

OF 03-0251. CALIFORNIA. Chromium geochemistry of serpentinous sediment in the Willow core, Santa Clara County, CA, by C. J. Oze, M. J. LaForce, C. M. Wentworth, R. T. Hanson, D. K. Bird and R. G. Coleman. 24 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/of03-251/>

OF 03-0260. VERMONT, TENNESSEE, IDAHO. Geochemical characterization of slags, other mines wastes, and their leachates from the Elizabeth and Ely mines (Vermont), the Ducktown mining district (Tennessee), and the Clayton smelter site (Idaho), by N. M. Piatak, R. R. Seal, II, J. M. Hammarstrom, A. L. Meier and P. H. Briggs. 53 p. (NC, Da, M; Idaho Geol. Surv., Univ. of Idaho, Morrill Hall, Room 332, Moscow, ID 83843.) \$32. Available on the web at

<http://pubs.usgs.gov/of/2003/of03-260/>

OF 03-0265. Grand Canyon riverbed sediment changes, experimental release of September 2000; a sample data set, by F. L. Wong, R. J. Anima, Peter Galanis, Jennifer Codianne, Yu Xia, Randy Bucciarelli and Michael Hamer. (NC, Da, M; Arizona Geol. Surv. 416 West Congress St. #100, Tucson, AZ 85701-1315; USGS, Suite 355, 520 North Park Ave., Tucson, AZ 85719.) Available on the web at

<http://geopubs.wr.usgs.gov/open-file/of03-265/>

OF 03-0267. ALASKA. Catalog of earthquake hypocenters at Alaskan volcanoes; January 1 through December 31, 2002, by J. P. Dixon, S. D. Stihler, J. A. Power, Guy Tytgat, S. C. Moran, John Sánchez, Steve Estes, S. R. McNutt and John Paskievitch. 58 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 99709-3656.) Available on the web at

<http://geopubs.wr.usgs.gov/open-file/of03-267/>



- OF 03-0271. LOUISIANA. Archive of chirp seismic reflection data collected during USGS cruises 01SCC01 and 01SCC02, Timbalier Bay and offshore East Timbalier Island, Louisiana, June 30-July 9 and August 1, 2001, by Karynna Calderon, S. V. Dadisman, J. G. Flocks, J. L. Kindinger and D. S. Wiese. Four discs. (NC, Da, M.) DVD-R disc-on-demand. Single disc \$60; each additional \$30.
- These discs have been produced in accordance with the UDF Standard and are therefore capable of being read on any computing platform that has a DVD drive.
- OF 03-0274. LOUISIANA. Archive of boomer seismic reflection data collected during USGS cruises 01SCC01 and 01SCC02, Timbalier Bay and offshore East Timbalier Island, Louisiana, June-August, 2001, by Karynna Calderon, S. V. Dadisman, J. G. Flocks, J. L. Kindinger and D. S. Wiese. One disc. (NC, Da, M.) DVD-R disc-on-demand. \$60.
- This disc has been produced in accordance with the UDF Standard and is therefore capable of being read on any computing platform that has a DVD drive.
- OF 03-0277. MASSACHUSETTS, RHODE ISLAND. The U. S. Geological Survey streamflow and observation-well network in Massachusetts and Rhode Island, by P. J. Zarriello and R. S. Socolow. Prepared in cooperation with the Massachusetts Department of Environmental Management; Massachusetts Department of Environmental Protection; Metropolitan District Commission; Water Resources Board; Rhode Island Department of Environmental Management; Providence Water Supply Board; and the U.S. Army Corps of Engineers. 114 p. (NC, Da, M.) \$65. Available on the web at <http://water.usgs.gov/pubs/of/2003/ofr03277>
- OF 03-0278. NEW HAMPSHIRE. Approximate potentiometric surface of the bedrock aquifer at Great Bay, southeastern New Hampshire, 2001, by R. M. Roseen, J. R. Degnan, L. K. Brannaka, T. P. Ballesterio and T. J. Mack. 1 over-size sheet, scale 1:24,000 (1 inch = 2,000 feet). (NC, Da, M.) \$5.
- OF 03-0281. CALIFORNIA. Preliminary geologic map of the Elsinore 7.5' quadrangle, Riverside County, California, by D. M. Morton and F. H. Weber, Jr. 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/of03-281/>
- OF 03-0282. Beryllium recycling in the United States in 2000, by L. D. Cunningham. 10 p. (NC, Da, M.) Available on the web at <http://pubs.usgs.gov/of/2003/of03-282/>
- OF 03-0288. The role of stocking in the reestablishment and augmentation of native fish in the lower Colorado River mainstream (1998-2002), by Gordon Mueller. Prepared in cooperation with the Bureau of Reclamation; Arizona State University; U.S. Fish and Wildlife Service; and California Fish and Game Department. 42 p. (NC, Da, M.) \$18.
- OF 03-0293. CALIFORNIA. Preliminary geologic map of the San Bernardino 30' x 60' quadrangle, California, by D. M. Morton and F. K. Miller. Prepared in cooperation with the California Geological Survey. 190 p., 1 over-size sheet, 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.) Available on the web at <http://geopubs.wr.usgs.gov/open-file/of03-293/>
- OF 03-0294. Hydrogeologic factors that influence ground water movement in the desert Southwest United States, by F. C. Chuang, E. H. McKee and K. A. Howard. 38 p., 21 over-size sheets, scale 1:2,000,000 (1 inch = about 32 miles). (NC, Da, M; USGS, Library, 2255 North Gemini Dr., Flagstaff, AZ 86001.) Available on the web at <http://geopubs.wr.usgs.gov/open-file/of03-294/>
- OF 03-0300. A bibliography of selected references to U.S. marine sand and gravel mineral resources, by S. J. Williams, J. M. Reid and F. T. Manheim. 67 p. (NC, Da, M.) Available on the web at <http://pubs.usgs.gov/of/2003/of03-300/>
- OF 03-0301. CALIFORNIA. Geologic map and digital database of the Yucaipa 7.5' quadrangle, San Bernardino and Riverside counties, California, by J. C. Matti, D. M. Morton, B. F. Cox, S. E. Carson and T. J. Yetter. 17 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/of03-301/>
- OF 03-0302. CALIFORNIA. Geologic map and digital database of the Redlands 7.5' quadrangle, San Bernardino and Riverside counties, California, by J. C. Matti, D. M. Morton, B. F. Cox and K. J. Kendrick. 13 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/of03-302/>
- OF 03-0303. Use of boundary fluxes when simulating solute transport with the MODFLOW ground-water transport process, by L. F. Konikow and G. Z. Hornberger. 17 p. (NC, Da, M.) \$10. Available on the web at [http://water.usgs.gov/nrp/gwsoftware/mf2k\\_gwt/doc/OFR03-303.pdf](http://water.usgs.gov/nrp/gwsoftware/mf2k_gwt/doc/OFR03-303.pdf)
- OF 03-0306. CALIFORNIA, OREGON. A bibliography of Klamath Mountains geology, California and Oregon, listing authors from Aalto to Zucca for the years 1849 to mid-2003, compiled by W. P. Irwin. 123 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.) (Supersedes Open-File Report 95-558.) Available on the web at <http://geopubs.wr.usgs.gov/open-file/of03-306/>
- OF 03-0307. Geotechnical analysis of paleoseismic shaking using liquefaction features; Part 1, Major updating of analysis techniques, by S. M. Olson, R. A. Green and S. F. Obermeier. 33 p.



(NC, Da, M.) Available on the web at  
<http://pubs.usgs.gov/of/2003/of03-307/>

OF 03-0308. U.S. Geological Survey Subsidence Interest Group conference, proceedings of the technical meeting, Galveston, Texas, November 27-29, 2001, edited by K. R. Prince and D. L. Galloway. 162 p. (NC, Da, M.) \$100.

On aquifer mechanics; how did we get here and where might we go?, by F. S. Riley. p. 1-11.

The Harris-Galveston Coastal Subsidence District/National Geodetic Survey automated GPS subsidence monitoring project, by D. B. Zilkoski, L. W. Hall, G. J. Mitchell, Vasanthi Kammula, Ajit Singh, W. M. Chrismer and R. J. Neighbors. p. 13-28.

TEXAS. Hydrogeology and simulation of ground-water flow and aquifer-system compaction in the Chicot and Evangeline aquifers, and land subsidence in the Houston area, Texas, by M. C. Kasmarek and E. W. Strom. p. 29-37.

TEXAS. Optimal withdrawal of elastically stored ground water in the Chicot Aquifer, Houston area, Texas, by W. R. Danskin, M. C. Kasmarek and E. W. Strom. p. 39-48.

VIRGINIA. Characterization and modeling of land subsidence due to ground-water withdrawals from the confined aquifers of the Virginia coastal plain, by J. P. Pope and T. J. Burbey. p. 49-56.

NEVADA. Application of nonlinear regression methods to estimate hydraulic properties that control vertical aquifer-system deformation at the Lorenzi Site, Las Vegas, Nevada, by M. T. Pavelko. p. 57-62.

LOUISIANA. Sea-level rise and subsidence; implications for flooding in New Orleans, Louisiana, by V. R. Burkett, D. B. Zilkoski and D. A. Hart. p. 63-70.

Simulation of land subsidence in a glacial aquifer system above a salt mine collapse redux; a post audit, by R. M. Yager. p. 71-80.

CALIFORNIA. Separating ground-water and hydrocarbon-induced surface deformation from geodetic tectonic contraction measurements across metropolitan Los Angeles, California, by G. W. Bawden. p. 81-89.

Aquifer-system characterization using InSAR, by Michelle Sneed, S. V. Stork and R. J. Lacniak. p. 91-97.

CALIFORNIA. Use of InSAR to identify land-surface displacement and aquifer-system compaction, Paso Robles area, California, by J. N. Densmore, D. L. Galloway and D. W. Valentine. p. 99-102.

CALIFORNIA. Inverse modeling of regional aquifer-system compaction based on land subsidence measurements, Antelope Valley (Mojave Desert), California, by Jorn Hoffmann, D. L. Galloway and H. A. Zebker. p. 103-113.

NEVADA. Land subsidence in Las Vegas Valley, Nevada; evolution, spatial patterns, and rates through 2000, by J. W. Bell and Falk Amelung. p. 115-120.

NEVADA. InSAR detection of post-seismic and coseismic ground-surface deformation associated with underground weapons testing, Yucca Flat, Nevada Test Site, by R. J. Lacniak, D. L. Galloway and Michelle Sneed. p. 121-128.

NEW MEXICO. InSAR-derived temporal and spatial patterns of land subsidence and uplift caused by aquifer-system deformation controlled in part by ground-water-level variations and geologic structures near Albuquerque, New Mexico, by C. E. Heywood, D. L. Galloway and S. V. Stork. p. 129-142.

Status of radar interferometry for operational subsidence monitoring, by S. M. Buckley. p. 143-146.

International land subsidence data base, by K. R. Prince, Roy Sonenshein and George Karavitis. p. 147-153.

OF 03-0314. Preliminary analyses for perchlorate in selected natural materials and their derivative products, by G. J. Orris, G. J. Harvey, D. T. Tsui and J. E. Eldrige. 6 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/of03-314>

OF 03-0317. Application of magnetic and electromagnetic methods to locate buried metal, by R. J. Horton. 3 p. (NC, Da, M.) Available on the web at <http://pubs.usgs.gov/of/2003/ofr-03-317/>

OF 03-0319. ALASKA. Aeromagnetic surveys in Yukon Flats Alaska, a website for the distribution of data. (NC, M, Da, A; 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-03-319/>

OF 03-0323. ALASKA. Overview of the Alaska North Slope posters presented at the American Association of Petroleum Geologists (AAPG) annual meeting in Salt Lake City, Utah, USA during May 11-14, 2003; a status report of the U. S. Geological Survey Alaska petroleum studies, by K. J. Bird. 1 over-size sheet. (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/of03-323/>

OF 03-0324. ALASKA. Alaskan North Slope petroleum systems, by L. B. Magoon, P. G. Lillis, K. J. Bird, C. Lampe and K. E. Peters. 3 over-size sheets. (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/of03-324/>

OF 03-0325. ALASKA. Petroleum source potential of the Lower Cretaceous mudstone succession of the NPRA and Colville Delta area, North Slope Alaska, based on sonic and resistivity logs, by M. A. Keller and K. J. Bird. 2 over-size sheets. (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/of03-325/>

OF 03-0326. ALASKA. Petroleum systems of the Alaskan North Slope; a numerical journey from source to trap, by C. Lampe, K. E. Peters, L. B. Magoon, K. J. Bird and P. G. Lillis. 3 over-size sheets. (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/of03-326/>
- OF 03-0327. ALASKA. Association of deformation and fluid events in the central Brooks Range fold-and-thrust belt, Northern Alaska, by T. E. Moore, C. J. Potter, P. B. O'Sullivan, K. L. Shelton and M. B. Underwood. 2 over-size sheets. (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/of03-327/>
- OF 03-0328. ALASKA. Distribution, richness, quality, and thermal maturity of source rock units on the North Slope of Alaska, by K. E. Peters, K. J. Bird, M. A. Keller, P. G. Lillis and L. B. Magoon. 3 over-size sheets. (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/of03-328/>
- OF 03-0329. ALASKA. Sandstone and shale compaction curves derived from sonic and gamma ray logs in offshore wells, North Slope, Alaska; parameters for basin modeling, by E. L. Rowan, D. O. Hayba, P. H. Nelson, W. M. Burns and D. W. Houseknecht. 3 over-size sheets. (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/of03-329/>
- OF 03-0330. ALASKA. North Alaska petroleum analysis; the regional map compilation, by R. W. Saltus and K. J. Bird. 1 over-size sheet. (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/of03-330/>
- OF 03-0332. COLORADO. Assessment of potential debris-flow peak discharges from basins burned by the 2002 Missionary Ridge fire, Colorado, by S. H. Cannon, J. A. Michael, J. E. Gartner and J. A. Gleason. 1 over-size sheet. (NC, M, Da; Vicki J. Cowart, Colorado Geol. Surv. 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-03-332/>
- OF 03-0333. COLORADO. Assessment of potential debris-flow peak discharges from basins burned by the 2002 Coal Seam fire, Colorado, by S. H. Cannon, J. A. Michael and J. E. Gartner. 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-03-333/>
- OF 03-0342. MICHIGAN. Berrien County, Michigan, June 2003; drilling core logs and Bear Cave Tufa with trace fossils, by K. C. McKinney, D. G. Queen, Eugene Cobbs, III and Jared Abraham. One CD-ROM. (NC, Da, M; Geol. Surv. Div., Michigan Dep. of Natural Resources, P.O. Box 30028, Lansing, MI 48909.) \$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 03-0343. Tectonic summaries for Web-served earthquake responses, southeastern North America, by R. L. Wheeler. 28 p. (NC, Da, M.) Available on the web at <http://pubs.usgs.gov/of/2003/ofr-03-343/>
- OF 03-0345. TEXAS, NEW MEXICO. Ground-water quality of the southern High Plains Aquifer in Texas and New Mexico, 2001, by Lynne Fahlquist. National Water-Quality Assessment Program. 59 p. (NC, Da, M.) \$20. Available on the web at [http://co.water.usgs.gov/nawqa/hpgw/reports/ofr03\\_345.pdf](http://co.water.usgs.gov/nawqa/hpgw/reports/ofr03_345.pdf)
- OF 03-0346. MARYLAND. Bog iron formation in the Nassawango Watershed, Maryland, by O. P. Bricker, W. L. Newell and N. S. Simon. 1 over-size sheet. (NC, Da, M.) Available on the web at <http://pubs.usgs.gov/of/2003/of03-346/>
- OF 03-0349. Interpreting DNAPL saturations in a laboratory-scale injection with GPR data and direct core measurements, by R. H. Johnson and E. P. Poeter. 39 p. (NC, Da, M.) Available on the web at <http://pubs.usgs.gov/of/2003/ofr-03-349/>
- OF 03-0351. Isopach map and regional correlations of the Fire Clay Tonstein, central Appalachian Basin, by W. F. Outerbridge. 34 p. (NC, Da, M.) Available on the web at <http://pubs.usgs.gov/of/2003/of03-351/>
- OF 03-0353. WISCONSIN. Geochemistry of bedrock and glacial deposits in the vicinity of the Bend massive sulfide deposit, north central Wisconsin, by L. G. Woodruff, J. W. Attig, W. F. Cannon, S. W. Nicholson and Klaus Schulz. 8 p. (NC, Da, M.) Available on the web at <http://pubs.usgs.gov/of/2003/of03-353/>
- OF 03-0354. FORSPAN model users guide, by T. R. Klett and R. R. Charpentier. 30 p. (NC, Da, M.) Available on the web at <http://pubs.usgs.gov/of/2003/ofr-03-354/>
- OF 03-0355. TENNESSEE. Volatile organic compound data from three karst springs in middle Tennessee, February 2000 to May 2001, by S. D. Williams and J. J. Farmer. Prepared in cooperation with the Tennessee Department of Environment and Conservation, Division of Superfund. 69 p. (NC, Da, M.) \$20. Available on the web at <http://water.usgs.gov/pubs/of/2003/ofr03355>
- OF 03-0356. MONTANA. Water-quality, bed-sediment, and biological data (October 2001 through September 2002) and statistical summaries of data for streams in the upper Clark Fork basin, Montana, by K. A. Dodge, M. I. Hornberger and I. R. Lavigne. Prepared in cooperation with the U.S. Environmental Protection Agency. 95 p. (NC, Da, M.) \$24.50.



- OF03-0360. Shaded relief aeromagnetic map of the Santa Clara Valley and vicinity, California, by C. W. Roberts and R. C. Jachens. 1 over-size sheet, 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.) Available on the web at <http://geopubs.wr.usgs.gov/open-file/of03-360/>
- OF 03-0363. Publications of the Western Earth Surface Processes Team 2002, compiled by Charles Powell, II and R. W. Graymer. 22 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/of03-363/>
- OF 03-0367. ALASKA. Surficial geologic map of parts of the Misheguk Mountain and Baird Mountains quadrangles, Noatak National Preserve, Alaska, by T. D. Hamilton. 12 p., 1 over-size sheet, scale 1:250,000 (1 inch = about 4 miles). (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/of03-367/>
- OF 03-0369. Geologic and hydrogeologic framework of the Española Basin; proceedings of the 2<sup>nd</sup> annual Española Basin workshop, Santa Fe, New Mexico, March 4-5, 2003, edited by M. R. Hudson. 28 p. (NC, Da, M.) Available on the web at <http://pubs.usgs.gov/of/2003/ofr-03-369/>
- NEW MEXICO. Geologic mapping in the Española Basin by the New Mexico Bureau of Geology and Mineral Resources, by P. W. Bauer and A. S. Read. p. 2.
- Deformation bands in non-welded ignimbrites; petrophysical controls on their occurrence and implications for fluid flow, by J. E. Wilson, L. B. Goodwin and C. J. Lewis. p. 3.
- NEW MEXICO. Fault-zone properties and potential from compartmentalization of groundwater aquifers in poorly lithified, Rio Grande Rift-related, Santa Fe Group sediments, New Mexico, by J. S. Caine, S. A. Minor, V. J. S. Grauch, M. R. Hudson and C. E. Heywood. p. 4.
- Regional survey of fault-zone structural properties and cementation patterns in the northern Albuquerque Basin, by S. A. Minor, M. R. Hudson and J. S. Caine. p. 5.
- Mineralogic determination of pre-Bandelier sediment sources in the southwestern Española Basin, by David Vaniman, David Broxton, Steve Chipera, R. G. Warren and Giday WoldeGabriel. p. 6.
- NEW MEXICO. Periodicity and distribution of volcanism in the Pajarito Plateau, Rio Grande Rift, north-central New Mexico, by Giday WoldeGabriel, R. G. Warren, Greg Cole, Fraser Goff, David Broxton, David Vaniman, Lisa Peters and Amanda Naranjo. p. 7.
- NEW MEXICO. Geologic map and structure of the Frijoles Quadrangle, Los Alamos and Sandoval counties, New Mexico, by Fraser Goff, J. N. Gardner and S. L. Reneau. p. 8.
- NEW MEXICO. Depositional trends of the upper Tesuque Formation, Española Basin, N.M., and inferred tectonic and climatic influences on aggradation, by D. J. Koning. p. 9.
- Sedimentologic and structural framework of the southern and central Española Basin; insights from recent STATEMAP and EDMAP reports, by D. J. Koning, Adam Read and Claudia Borchert. p. 10.
- NEW MEXICO. Geology of the Horcado Ranch 7.5-minute quadrangle, Santa Fe County, north-central New Mexico, by D. J. Koning and Florian Maldonado. p. 11.
- Subsurface mapping and hydrologic characteristics of Bishop's Lodge Member of the Tesuque Formation, by Meghan Hodgins, Jason Hall and Jay Lazarus. p. 12.
- NEW MEXICO. Preliminary aeromagnetic interpretations for understanding the hydrogeologic framework of the southern Española Basin, New Mexico, by V. J. S. Grauch and Viki Bankey. p. 13.
- NEW MEXICO. Magnetotelluric surveys near the Cerrillos Uplift and La Bajada constriction, for hydrogeologic framework studies in the Española Basin, Rio Grande Rift, New Mexico, by B. D. Rodriguez, D. A. Sawyer, V. J. S. Grauch and J. M. Williams. p. 14.
- NEW MEXICO. Hydrogeology of the Santa Fe Group aquifer system, southern Española Basin, New Mexico; report on recent deep test wells in the Santa Fe Community College District, by J. W. Hawley and C. W. Cook. p. 15.
- NEW MEXICO. Hydrogeologic studies in the Española Basin by the New Mexico Bureau of Geology and Mineral Resources, by P. S. Johnson, J. M. Sigda and J. P. Frost. p. 16.
- NEW MEXICO. Ground-water flow near Tesuque Village, Santa Fe County, New Mexico, by Claudia Borchert. p. 17.
- Use of repeated gravity measurements to estimate aquifer recharge in the Española Basin, by A. H. Cogbill, J. F. Ferguson, E. H. Keating, G. M. Kramer and Joel Duran. p. 18.
- Subsidence at the Buckman well field observed by interferometric synthetic aperture radar, by D. R. Thomsen and Yuri Fialko. p. 19.
- Developing a groundwater flow model to evaluate hydrologic effects of pumping from the Buckman wellfield, by G. N. McCurry, Dale Doremus, Leah Smerud and John Shomaker. p. 20.
- NEW MEXICO. Investigation of streamflow, infiltration, and recharge processes in the Arroyo Hondo, New Mexico, by S. J. Moore and Jim Constantz. p. 21.
- NEW MEXICO. Comparison of seepage investigations in the Rio Grande reach from Otowi Bridge to White Rock, New Mexico, by J. E. Veenhuis. p. 22.
- Preliminary pre-development water-level map in the Santa Fe area with water-level trends and pumping zones of influence, by J. P. Frost and P. S. Johnson. p. 23.
- Groundwater chemistry in the Española Basin; relation to geologic and hydrologic influences, by Elizabeth Keating, Velimir Vesselinov, Ed Kwicklis and Richard Warren. p. 24.



Ground-water contamination at Los Alamos National Laboratory (LANL), by Dennis McQuillan, Michael Dale, John Young and Kim Granzow. p. 25.

A summary of water resources in the Rio Chama watershed, northern region of the Española Basin, by L. J. Fluk and David Morgan. p. 26.

Jemez y Sangre water plan overview, by A. C. Lewis, Joanne Hilton and Bob Vocke. p. 27.

Using scenario analysis to assist in resource planning under conditions of uncertainty, by Sigmund Silber. p. 28.

OF 03-0372. NEW YORK. Topography, shaded relief and backscatter intensity of the Hudson Shelf Valley, offshore of New York, by Bradford Butman, T. J. Middleton, E. R. Thieler and W. C. Schwab. 13 p., 2 over-size sheets. (NC, Da, M.) Available on the web at <http://pubs.usgs.gov/of/2003/of03-372/>

OF 03-0373. NEW HAMPSHIRE. Available sand and gravel resources in southern New Hampshire, by J. S. Duval, D. M. Sutphin and H. A. Pierce. (NC, Da, M.) Available on the web at <http://pubs.usgs.gov/of/2003/of03-373/>

OF 03-0374. LOUISIANA. Preliminary geochemical, microbiological, and epidemiological investigations into possible linkages between lignite aquifers, pathogenic microbes, and kidney disease in northwestern Louisiana, by J. E. Bunnell, R. N. Bushon, D. M. Stoeckel, A. M. Gifford, Marisa Beck, H. E. Lerch, Runhua Shi, Benton McGee, B. C. Hanson, Jonathan Kolak and P. D. Warwick. 59 p. (NC, Da, M.) Available on the web at <http://pubs.usgs.gov/of/2003/of03-374/>

OF 03-0377. Empirical modified Mercalli intensity site corrections for towns in eastern North America, by W. H. Bakun and M. G. Hopper. 33 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/of03-377/>

OF 03-0383. CALIFORNIA. Bathymetric and geophysical surveys of Englebright Lake, Yuba-Nevada counties, California, by J. R. Childs, N. P. Snyder and M. A. Hampton. 20 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/of03-383/>

OF 03-0384. COLORADO, NEW MEXICO. Digital archive; previously unpublished expedition sketches by Henry W. Elliott united with the "Preliminary field report of the United States Geological Survey of Colorado and New Mexico," 1869, by F. V. Hayden, edited by K. C. McKinney. 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 03-0398. LOUISIANA. Shoreline change posters of the Louisiana barrier islands 1885 to 1996, by Shea Penland, Chris Zganjar, K. A. Westphal, Paul Connor, Andrew Beall, Jeff List and S. J.

Williams. 8 sheets. (NC, Da, M.) Available on the web at <http://pubs.usgs.gov/of/2003/of03-398/>

OF 03-0399. PENNSYLVANIA. Description of borehole geophysical and geologist logs, Berks Sand Pit Superfund Site, Longswamp Township, Berks County, Pennsylvania, by D. J. Low and R. W. Conger. Prepared in cooperation with the U.S. Environmental Protection Agency. 29 p. (NC, Da, M.) \$13. Available on the web at <http://pa.water.usgs.gov/reports/ofr03-399.pdf>

OF 03-0403. Station corrections for the Katmai Region Seismic Network, by C. K. Searcy. 14 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/of03-403>

OF 03-0404. ALASKA. Alaska Resource Data File; McCarthy Quadrangle, Alaska, by T. L. Hudson. 442 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/of03-404/>

OF 03-0408. OREGON. Maps showing inundation depths, ice-rafted erratics, and sedimentary facies of late Pleistocene Missoula floods in the Willamette Valley, Oregon, by J. M. Minervini, J. E. O'Connor and R. E. Wells. 1 over-size sheet, scale 1:250,000 (1 inch = about 4 miles.) (NC, Da, M; Oregon Dep. of Geol. & Mineral Industries, Suite 965, 800 NE Oregon St. #28, Portland, OR 97232.) Available on the web at <http://geopubs.wr.usgs.gov/open-file/of03-408/>

OF 03-0409. OHIO, PENNSYLVANIA. Composition of crude oil and natural gas produced from 14 wells in the Lower Silurian "Clinton" Sandstone and Medina Group, northeastern Ohio and northwestern Pennsylvania, by R. C. Burruss and R. T. Ryder. 64 p. (NC, Da, M.) \$17.50. Available on the web at <http://pubs.usgs.gov/of/2003/of03-409/>

OF 03-0411. ALASKA. Preliminary hydrodynamic analysis of landslide-generated waves in Tidal Inlet, Glacier Bay National Park, Alaska, by E. L. Geist, Matthias Jakob, G. F. Wiczoreck and Peter Dartnell. 20 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/of03-411/>

OF 03-0421. ALASKA.  $^{40}\text{Ar}/^{39}\text{Ar}$  geochronology of igneous rocks in the Taylor Mountains and Dillingham quadrangles in SW Alaska, by Alexander Iriondo, M. J. Kunk and F. H. Wilson. 32 p. (NC, M, Da, A; Division 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.) \$8. Available on the web at <http://pubs.usgs.gov/of/2003/ofr03-421/>

OF 03-0429. CALIFORNIA. Location and age database for selected foraminifer samples collected by Exxon petroleum geologists in California, compiled by E. E. Brabb and J. M. Parker. 5 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/of03-429/>
- OF 03-0430. HAWAII. Coastal circulation and sediment dynamics along West Maui, Hawaii; Part II, 2003 hydrographic survey cruises A-3-03-HW and A-4-03-HW report on the spatial structure of currents, temperature, salinity and turbidity along western Maui, by C. D. Storlazzi, J. B. Logan, M. A. McManus and B. E. McLaughlin. 50 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, 96718-0051.) Available on the web at <http://geopubs.wr.usgs.gov/open-file/of03-430/>
- OF 03-0431. VERMONT. Geochemical characteristics of TP3 mine wastes at the Elizabeth Copper Mine Superfund Site, Orange Co., Vermont, by J. M. Hammarstrom, N. M. Piatak, R. R. Seal, II, P. H. Briggs, A. L. Meier and T. L. Muzik. 88 p. (NC, Da, M.) \$32. Available on the web at <http://pubs.usgs.gov/of/2003/of03-431>
- OF 03-0437. NEW MEXICO. Geologic map of Van Bremmer Park Quadrangle, Colfax County, New Mexico, by C. L. Pillmore. 1 over-size sheet, scale 1:24,000 (1 inch = 2,000 feet.). (NC, M, Da; New Mexico Bur. of Mines & Mineral Resources, Campus Station, Socorro, NM 87801.) Available on the web at <http://pubs.usgs.gov/of/2003/ofr-03-437/>
- OF 03-0438. NEW MEXICO, COLORADO. Geologic map of the Vermejo Park Quadrangle, Colfax County, New Mexico, and Las Animas County, Colorado, by C. L. Pillmore. 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; New Mexico Bur. of Mines & Mineral Resources, Campus Station, Socorro, NM 87801.) Available on the web at <http://pubs.usgs.gov/of/2003/ofr-03-438/>
- OF 03-0441. HAWAII. Data report; geology of reef-front carbonate sediment deposits around Oahu, Hawaii, by M. A. Hampton, C. T. Blay, Christopher Murray, L. Z. Torresan, C. S. Frazee, B. M. Richmond and C. H. Fletcher. (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/of03-441/>
- OF 03-0446. ALASKA. Alaska Resource Data File; Nebesna Quadrangle, Alaska, by T. L. Hudson. 229 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/of03-446/>
- OF 03-0447. ALASKA. Alaska Resource Data File; Wiseman Quadrangle, Alaska, by J. M. Britton. 331 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/of03-447/>
- OF 03-0449. CALIFORNIA. Photomosaics and logs of trenches on the San Andreas Fault, Thousand Palms Oasis, California, by T. E. Fumal, W. T. Frost, Christopher Garvin, J. C. Hamilton, Monique Jaasma and M. J. Rymer. 2 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/of03-449/>
- OF 03-0450. CALIFORNIA. Photomosaics and logs of trenches on the San Andreas Fault at Arano Flat near Watsonville, California, by T. E. Fumal, G. F. Heingartner, Laura Samrad, T. E. Dawson, J. C. Hamilton and J. N. Baldwin. 3 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/of03-450/>
- OF 03-0458. Questa baseline and pre-mining ground water investigation; 11, Geochemistry of composited material from alteration scars and mine-waste piles, by P. H. Briggs, S. J. Sutley and K. E. Livo. Prepared in cooperation with the New Mexico Environment Department. 16 p. (NC, Da, M.) Available on the web at <http://pubs.usgs.gov/of/2003/ofr-03-458/>
- OF 03-0460. Surface Water Quality-Assurance Plan for the Indiana District of the U. S. Geological Survey, by J. A. Stewart and D. V. Arvin. 64 p. (NC, Da, M.) Available on the web at <http://water.usgs.gov/pubs/of/2003/ofr03460/>



## 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-2600-F. Coastal-change and glaciological map of the Bakutis Coast area, Antarctica; 1972-2002, by Charles Swithinbank, University of Cambridge; R. S. Williams, Jr., J. G. Ferrigno, K. M. Foley, C. E. Rosanova, U.S. Geological Survey. Prepared in cooperation with the University of Cambridge, Scott Polar Research Institute, United Kingdom. 2003. Lat 78°S to 72°54'S, long 104°W to 130°W. Scale 1:1,000,000 (1 inch = about 16 miles). Sheet 42 by 29 inches (in color). (Accompanied by 10 page text.) \$7.



The 2003 edition is the second edition of Map I-2600-F; the first edition, a prototype map using only annotated Landsat images for two time intervals and conventional ground-control points, was published in 1997 (Swintinbank and others, 1997). The second edition is intended to supersede, not supplement, the first edition.

- I-2600-G. Coastal-change and glaciological map of the Saunders Coast area, Antarctica; 1972-1997, by Charles Swithinbank, University of Cambridge; R. S. Williams, Jr., J. G. Ferrigno, K. M. Foley, C. A. Hallam, and C. E. Rosanova, U.S. Geological Survey. Prepared in cooperation with the University of Cambridge, Scott Polar Research Institute, United Kingdom. 2003. Lat 81°S to 74°S, long 130°W to 158°30'W. Scale 1:1,000,000 (1 inch = about 16 miles). Sheet 43 by 37 inches (in color). (Accompanied by 9 page text.) \$7.
- I-2676-A. MASSACHUSETTS. Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts, by P. C. Valentine, J. L. Baker and T. S. Unger. Prepared in cooperation with the National Oceanic and Atmospheric Administration. 2003. Lat 42°05' to 42°45', long 70°05' to 70°35'. Scale 1:60,000 (1 inch = 5,000 feet). Sheet 33 by 57 1/2 inches (in color). \$7.
- I-2676-B. MASSACHUSETTS. Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts, by P. C. Valentine, T. S. Unger and J. L. Baker. Prepared in cooperation with the National Oceanic and Atmospheric Administration. 2003. Lat 42°05' to 42°45', long 70°05' to 70°35'. Scale 1:60,000 (1 inch = 5,000 feet). Sheet 33 by 57 1/2 inches (in color). \$7.
- I-2676-C. MASSACHUSETTS. Backscatter intensity and sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts, by P. C. Valentine, T. S. Unger and J. L. Baker. Prepared in cooperation with the National Oceanic and Atmospheric Administration. 2003. Lat 42°05' to 42°45', long 70°05' to 70°35'. Scale 1:60,000 (1 inch = 5,000 feet). Sheet 38 by 57 1/2 inches (in color). \$7.
- I-2731-A. MASSACHUSETTS. Sea floor topography of Quadrangle 1 in western Massachusetts Bay offshore of Boston, Massachusetts, by Bradford Butman, Laura Hayes, W. W. Danforth and P. C. Valentine. 2003. Lat 42°13'N to 42°19'N, long 70°36'W to 70°47'W. Scale 1:25,000 (1 inch = about 2,083 feet). Sheet 28 by 34 inches (in color). \$7. Available on the web at <http://pubs.usgs.gov/imap/i-2731a/>
- I-2731-B. MASSACHUSETTS. Shaded relief and sea floor topography of Quadrangle 1 in western Massachusetts Bay offshore of Boston, Massachusetts, by Bradford Butman, Laura Hayes, W. W. Danforth and P. C. Valentine. 2003. Lat 42°13'N to 42°19'N, long 70°36'W to 70°47'W. Scale 1:25,000 (1 inch = about 2,083 feet). Sheet 28 by 35 inches (in color). \$7. Available on the web at <http://pubs.usgs.gov/imap/i-2731b/>
- I-2731-C. MASSACHUSETTS. Backscatter intensity, shaded relief, and sea floor topography of Quadrangle 1 in western Massachusetts Bay offshore of Boston, Massachusetts, by Bradford Butman, Laura Hayes, W. W. Danforth and P. C. Valentine. 2003. Lat 42°13'N to 42°19'N, long 70°36'W to 70°47'W. Scale 1:25,000 (1 inch = about 2,083 feet). Sheet 28 by 35 inches (in color). \$7. Available on the web at <http://pubs.usgs.gov/imap/i-2731c/>
- I-2732-A. MASSACHUSETTS. Seafloor topography of Quadrangle 2 in western Massachusetts Bay offshore of Boston, Massachusetts, by Bradford Butman, Laura Hayes, W. W. Danforth and P. C. Valentine. 2003. Lat 42°20'N to 42°26'N, long 70°36'W to 70°53'W. Scale 1:25,000 (1 inch = about 2,083 feet). Sheet 40 by 33 inches (in color). \$7. Available on the web at <http://pubs.usgs.gov/imap/i-2732a/>
- I-2732-B. MASSACHUSETTS. Shaded relief and sea floor topography of Quadrangle 2 in western Massachusetts Bay offshore of Boston, Massachusetts, by Bradford Butman, Laura Hayes, W. W. Danforth and P. C. Valentine. 2003. Lat 42°20'N to 42°26'N, long 70°36'W to 70°53'W. Scale 1:25,000 (1 inch = about 2,083 feet). Sheet 40 by 35 inches (in color). \$7. Available on the web at <http://pubs.usgs.gov/imap/i-2732b/>
- I-2732-C. MASSACHUSETTS. Backscatter intensity, shaded relief, and sea floor topography of Quadrangle 2 in western Massachusetts Bay offshore of Boston, Massachusetts, by Bradford Butman, Laura Hayes, W. W. Danforth and P. C. Valentine. 2003. Lat 42°20'N to 42°26'N, long 70°36'W to 70°53'W. Scale 1:25,000 (1 inch = about 2,083 feet). Sheet 40 by 35 inches (in color). \$7. Available on the web at <http://pubs.usgs.gov/imap/i-2732c/>
- I-2766. ARIZONA. Geologic map of the Mount Trumbull 30' × 60' Quadrangle, Mohave and Coconino Counties, northwestern Arizona, by G. H. Billingsley and J. L. Wellmeyer. Prepared in cooperation with the National Park Service and the Bureau of Land Management, Arizona Strip District. 2003. Lat 36° to 36°30', long 113° to 114°. Scale 1:100,000 (1 inch = about 1.6 miles). Sheet 38 by 54 inches (in color). (Accompanied by 36 page text.) \$7. Available on the web at <http://geopubs.wr.usgs.gov/i-map/i2766/>
- I-2774. MONTANA. Geologic map of the Nelson Quadrangle, Lewis and Clark County, Montana, by M. W. Reynolds and W. H. Hays. 2003. Lat 46°45' to 46°52'30", long 111°45' to 111°52'30". Scale 1:24,000 (1 inch = 2,000 feet). Sheet 45 by 40 inches (in color). \$7.
- I-2776. Geologic map of the southern Ivrea-Verbano Zone, northwestern Italy, by J. E. Quick, U.S. Geological Survey; Silvano Sinigoi, Università di Trieste; A. W. Snoke, T. J. Kalakay, University of Wyoming; Adriano Mayer and Gabriella Peressini, Università di Trieste. 2003. Lat 45°42' to 45°54', long 08°20' to 08°05'. Scale 1:25,000 (1 inch = about 2,083 feet). Sheet 40 by 57 inches (in color). (Accompanied by 22 page text.) \$7.
- I-2781. The North American tapestry of time and terrain, by K. E. Barton, D. G. Howell and J. F. Vigil. 2003. Lat 170°E to 55°W, long 7°N to 83°N. Scale 1:8,000,000 (1 inch = 126 miles). Sheet 56 by 44 inches (in color). \$7. Available on the web at <http://geopubs.wr.usgs.gov/i-map/i2781/>
- I-2782. Topographic and color-coded contour maps of Mars. Prepared for the National Aeronautics and Space Administration. 2003. Two sheets. \$14.
- SHEET 1. Topographic map of Mars M 25M RKN. Lat -57° to 57°, long 180°E to 180°E; and lat 55° to 90°, long 0° to 0°; and lat -55° to -90°, long 180° to 180°. Scale 1:25,000,000 (1 mm = 25 km) at 0° latitude Mercator Projection and scale 1:15,196,708 (1 mm = 15,196,708 km) at 90° latitude Polar Stereographic Projection). Sheet 36 by 32 inches (in color).





SHEET 2. Color-coded contour map of Mars M 25 MRKT. Lat  $-57^{\circ}$  to  $57^{\circ}$ , long  $180^{\circ}$ E to  $180^{\circ}$ E; and lat  $55^{\circ}$  to  $90^{\circ}$ , long  $0^{\circ}$  to  $0^{\circ}$ ; and lat  $-55^{\circ}$  to  $-90^{\circ}$ , long  $180^{\circ}$  to  $180^{\circ}$ . Scale 1:25,000,000 (1 mm = 25 km) at  $0^{\circ}$  latitude Mercator Projection and scale 1:15,196,708 (1 mm = 15,196,708 km) at  $90^{\circ}$  latitude Polar Stereographic Projection). Sheet 36 by 32 inches (in color).

I-2788. ALASKA. Geologic map of the Big Delta B-2 Quadrangle, East-Central Alaska, by W. C. Day, J. N. Aleinikoff, U.S. Geological Survey; Paul Roberts, Moira Smith, Teck Cominco Limited; B. M. Gamble, U.S. Geological Survey; M. W. Henning, Alaska Department of Natural Resources; L. P. Gough, and L. C. Morath, U.S. Geological Survey. Prepared in cooperation with the Alaska Department of Natural Resources and Teck Cominco Limited. 2003. Lat  $64^{\circ}15'$  to  $64^{\circ}30'$ , long  $144^{\circ}30'$  to  $145^{\circ}$ . Scale 1:63,360 (1 inch = 1 mile). Sheet 39 by 33 inches (in color). \$7.

I-2790. Crater Lake revealed, by D. W. Ramsey, Peter Dartnell, C. R. Bacon, J. E. Robinson and J. V. Gardner. 2003. Lat  $121^{\circ}55'$  to  $122^{\circ}20'$ , long  $42^{\circ}43'$  to  $43^{\circ}09'$ . Sheet 38 by 25 inches (in color). \$7. Available on the web at <http://geopubs.wr.usgs.gov/i-map/i2790/>

I-2809. HAWAII. Hawaii's volcanoes revealed, by B. W. Eakins, J. E. Robinson, U.S. Geological Survey; Toshiya Kanamatsu, Jiro Naka, Japan Marine Science and Technology Center; J. R. Smith, University of Hawaii; Eiichi Takahashi, Tokyo Institute of Technology, Earth and Planetary Sciences; and D. A. Clague, Monterey Bay Aquarium Research Institute. Prepared in cooperation with the Japan Marine Science and Technology Center; University of Hawaii, School of Ocean and Earth Science and Technology; and the Monterey Bay Aquarium Research Institute. 2003. Lat  $18^{\circ}$ N to  $23^{\circ}$ N, long  $154^{\circ}$ W to  $161^{\circ}$ W. Sheet 38 by 25 inches (in color). \$7. Available on the web at <http://geopubs.wr.usgs.gov/i-map/i2809/>

The Japan Marine Science and Technology Center funded and led a 4-year collaborative survey of the underwater flanks of Hawaii's shield volcanoes. This exploration, involving scientists from the U.S. Geological Survey and from other Japanese and U.S. academic and research institutions, used manned and unmanned submersibles, rock dredges, and sediment piston cores to directly sample and visually observe the sea floor. Ship-based sonar systems were used to more widely map the bathymetry from the sea surface.

### 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-2416. NEW MEXICO. Geologic map of the La Mesita Negra SE Quadrangle, Bernalillo County, New Mexico, by R. R. Shroba, R. A. Thompson, D. L. Schmidt, S. F. Personius, Florian Maldonado and T. R. Brandt. 2003. Two sheets. Lat  $35^{\circ}$  to  $35^{\circ}07'30''$ , long  $106^{\circ}45'$  to  $106^{\circ}52'30''$ . Scale 1:24,000 (1 inch = 2,000 feet). Both sheets 53 by 33 inches (in color). (Accompanied by 12 page text.) (Map-on-demand.) \$40. Available on the web at <http://pubs.usgs.gov/mf/2003/mf-2416/>

MF-2423. WASHINGTON. Field and laboratory data from an earthquake history study of the Waterman Point Fault, Kitsap County, Washington, by A. R. Nelson, S. Y. Johnson, U.S. Geological Survey; H. M. Kelsey, Humboldt State University; B. L. Sherrod, University of Washington; R. E. Wells, U.S. Geological Survey; Koji Okumura, Hiroshima University, Lee-Ann Bradley, U.S. Geological Survey; Robert Bogar, Critical Areas Consulting; and S. F. Personius, U.S. Geological Survey. 2003. Lat  $47^{\circ}30'$  to  $47^{\circ}45'$ , long  $122^{\circ}15'$  to  $122^{\circ}45'$ . Sheet 83 by 37 inches (in color). (Map-on-demand.) \$20. Available on the web at <http://pubs.usgs.gov/mf/2003/mf-2423/>

MF-2424. ALASKA. Map of glacial limits and possible refugia in the southern Alexander Archipelago, Alaska, during the late Wisconsin glaciation, by P. E. Carrara, T. A. Ager, U.S. Geological Survey; J. F. Baichtal, U.S. Department of Agriculture Forest Service; D. P. VanSistine, U.S. Geological Survey. Prepared in cooperation with the U.S. Department of Agriculture, Forest Service. 2003. Lat  $54^{\circ}30'$  to  $57^{\circ}$ , long  $131^{\circ}$  to  $136^{\circ}$ . Scale 1:500,000 (1 inch = about 8 miles). Sheet 53 by 33 inches (in color). (Map-on-demand.) \$20. Available on the web at <http://pubs.usgs.gov/mf/2003/mf-2424/>



## 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.**

Malek Abu-Ruman\* and J. S. Clarke. GEORGIA. Preliminary simulation of pond-aquifer flow and water availability at seepage pond near Brunswick, Georgia. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2001 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 669-672.

D. P. Adam. CALIFORNIA. Reflections on the development of the California pollen record. Scientific Papers - The Mammoth Site of Hot Springs, *in* Late Quaternary environments and deep history; a tribute to Paul S. Martin. (D. W. Steadman, editor and others). 3, January 1995. p. 117-130.

A. D. Addison. GEORGIA. Characterization of a crystalline-bedrock aquifer using borehole geophysics, Marietta, Cobb County, Georgia. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.

P. N. Albertson. GEORGIA. Naturally occurring radiouclides in Georgia water supplies; implications for community water systems. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.

S. J. Alhadeff, J. W. Musser and T. R. Dyar. GEORGIA. Using the digital environmental atlas of Georgia. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2001 Georgia wa-



- ter resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 160-161.
- J. M. Amato\*, E. L. Miller\*, A. T. Calvert, Jaime Toro\* and J. E. Wright\*. ALASKA. Potassic magmatism on St. Lawrence Island, Alaska, and Cape Dezhnev, Northeast Russia; evidence for Early Cretaceous subduction in the Bering Strait region. Professional Report - Alaska. Division of Geological & Geophysical Surveys, *in* Short notes on Alaska geology 2003. (K. H. Clautice, editor and others). Report no. 120, 2003. p. 1-20.
- Greg Anderson, Brad Aagaard and Ken Hudnut. Fault interactions and large complex earthquakes in the Los Angeles area. *Science*. v. 302, no. 5652, December 12, 2003. p. 1946-1949.
- P. D. Ankorn. Clarifying turbidity; the potential and limitations of turbidity as a surrogate for water-quality monitoring. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.
- P. D. Ankorn, M. N. Landers and J. P. Vick\*. Water-quality monitoring in Gwinnett County. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2001 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 521-524.
- J. T. Armbruster. GEORGIA. The 1986 and 1988 droughts in Georgia. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 1989 Georgia water resources conference. (K. J. Hatcher, editor). 1989, 1989. p. 44-46.
- Bonny Askew and S. T. Algermissen. Catalogs of hypocenters and intensities for South America. Earthquake Mitigation Program in the Andean Region (Project SISRA), *in* Simposio sobre el peligro y riesgo sísmico y volcánico en America del Sur—Symposium on Seismic and volcanic hazard and risk in South America. (Alberto Giesecke M., editor). 14, 1985. p. 137-170.
- W. H. Asquith, J. R. Bumgarner and L. S. Fahlquist. TEXAS. A triangular model of dimensionless runoff producing rainfall hyetographs in Texas. *Journal of the American Water Resources Association*. v. 39, no. 4, August 2003. p. 911-921.
- G. M. Atkinson\* and D. M. Boore. Empirical ground-motion relations for subduction-zone earthquakes and their application to Cascadia and other regions. *Bulletin of the Seismological Society of America*. v. 93, no. 4, August 2003. p. 1703-1729.
- S. W. Ator, A. R. Olsen\*, A. M. Pitchford\* and J. M. Denver. Application of a multipurpose unequal probability stream survey in the Mid-Atlantic Coastal Plain. *Journal of the American Water Resources Association*. v. 39, no. 4, August 2003. p. 873-886.
- E. D. Attanasi and J. H. Schuenemeyer\*. Some aspects of resource uncertainty and their economic consequences in assessment of the 1002 area of the Arctic National Wildlife Refuge. *Natural Resources Research (International Association for Mathematical Geology)*. v. 11, no. 2, June 2002. p. 109-120.
- Will Aubrey. Stratigraphy and sedimentology of latest Jurassic to Mid-Cretaceous rocks, Four Corners area, *in* Field guide to a geologic excursion in the northeastern Navajo Nation. (S. C. Semken, editor). Shiprock, NM: Navajo Community College, 1992. p. 33-40.
- M. J. Baedeker, I. M. Cozzarelli, R. P. Eganhouse, D. I. Siegel\* and P. C. Bennett\*. Crude oil in a shallow sand and gravel aquifer; III, Biogeochemical reactions and mass balance modeling in anoxic groundwater. *Applied Geochemistry*. v. 8, no. 6, November 1993. p. 569-586.
- A. G. Baines\*, M. J. Cheadle\*, H. J. Dick\*, A. H. Scheirer, B. E. John\*, N. J. Kuznir\* and Takeshi Matsumoto\*. Mechanism for generating the anomalous uplift of oceanic core complexes; Atlantis Bank, Southwest Indian Ridge. *Geology (Boulder)*. v. 31, no. 12, December 2003. p. 1105-1108.
- W. T. Baisden\*, R. Amundson\*, D. L. Brenner\*, A. C. Cook\*, C. Kendall and J. W. Harden. CALIFORNIA. A multiisotope C and N modeling analysis of soil organic matter turnover and transport as a function of soil depth in a California annual grassland soil chronosequence. *Global Biogeochemical Cycles*. v. 16, no. 4, December 2002. 26 p.
- V. R. Baker\*, R. H. Webb and P. K. House\*. The scientific and societal value of paleoflood hydrology. *Water Science and Application, in* Ancient floods, modern hazards; principles and applications of paleoflood hydrology. (P. K. House, editor and others). 5, 2002. p. 1-19.
- C. E. Barker. Canister desorption demonstration, *in* Coalbed methane resource potential in Hungary; a coalbed methane workshop from prospect to production and scientific and technical aspects of Hungarian coalbed methane deposits. Budapest: Hungarian Geological Survey, 2002. p. 169-187.
- C. E. Barker. Coal as an activated carbon based petroleum system; contrasts with conventional oil and gas, *in* Coalbed methane resource potential in Hungary; a coalbed methane workshop from prospect to production and scientific and technical aspects of Hungarian coalbed methane deposits. Budapest: Hungarian Geological Survey, 2002. p. 118-142.
- C. E. Barker. Coal quality and petrography effects on CBM storage capacity, *in* Coalbed methane resource potential in Hungary; a coalbed methane workshop from prospect to production and scientific and technical aspects of Hungarian coalbed methane deposits. Budapest: Hungarian Geological Survey, 2002. p. 143-168.
- J. A. Bartow. CALIFORNIA. Cenozoic stratigraphy of the northern San Joaquin Valley, Central California. Guidebook - Pacific Section, American Association of Petroleum Geologists, *in* Field guide to the tectonics of the boundary between the California Coast Ranges and the Great Valley of California. (M. C. Erskine, editor and others). 70, April 1992. p. 5-12.
- T. M. Bawden\*, M. T. Einaudi\*, B. C. Bostick\*, Anders Meibom\*, Joseph Wooden, J. W. Norby\*, M. J. T. Orobona\* and C. P. Chamberlain\*. NEVADA. Extreme <sup>34</sup>S depletions in ZnS at the Mike gold deposit, Carlin Trend, Nevada; evidence for bacteriogenic supergene sphalerite. *Geology (Boulder)*. v. 31, no. 10, October 2003. p. 913-916.
- P. C. Bennett\*, D. E. Siegel\*, M. J. Baedeker and M. F. Hult. Crude oil in a shallow sand and gravel aquifer; I, Hydrogeology and inorganic geochemistry. *Applied Geochemistry*. v. 8, no. 6, November 1993. p. 529-549.
- Larry Benson, Don Barber\*, J. T. Andrews\*, Howard Taylor and Paul Lamothe\*. Rare-earth elements and Nd and Pb isotopes as source indicators for Labrador Sea clay-size sediments during



- Heinrich event 2. *Quaternary Science Reviews*. v. 22, no. 8-9, April 2003. p. 881-889.
- B. R. Berger, T. V. V. King, L. C. Morath and J. D. Phillips. ARIZONA. Utility of high-altitude infrared spectral data in mineral exploration; application to northern Patagonia Mountains, Arizona. *Economic Geology and the Bulletin of the Society of Economic Geologists*. v. 98, no. 5, August 2003. p. 1003-1018.
- L. M. Bexfield and L. N. Plummer. NEW MEXICO. Occurrence of arsenic in ground water of the middle Rio Grande Basin, central New Mexico, *in* Arsenic in ground water. (A. H. Welch, editor and others). Boston, MA: Kluwer Academic Publishers, 2003. p. 295-327.
- D. D. Black, W. B. Hughes and M. B. Gregory. GEORGIA. Water-quality and ecological assessment of Rottenwood and Slope creeks, Marietta, Georgia, 2002. *Proceedings - Georgia Water Resources Conference, in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.
- J. B. Blainey, R. H. Webb, M. E. Moss and V. R. Baker\*. Bias and information content of paleoflood data in flood-frequency analysis. *Water Science and Application, in* Ancient floods, modern hazards; principles and applications of paleoflood hydrology. (P. K. House, editor and others). 5, 2002. p. 161-174.
- J. D. Bliss and D. A. Singer. Can probabilistic neural networks be used to successfully classify carbonate aggregate? *Forum on the Geology of Industrial Minerals, in* 2001 industrial minerals in Canada; program and extended abstracts for the 37th forum on The geology of industrial minerals. (G. J. Simandl, compiler and others). 37, 2001. p. 169-170.
- D. E. Boleneus and L. M. Applegate\*. IDAHO, MONTANA. Analysis of digital geologic and mineral resource data of the Revett Formation in the western Montana copper belt, Idaho and Montana. *Northwest Geology, in* Out of the flood and into the panhandle; northern Idaho geology; proceedings from the 26th annual Tobacco Root Geological Society field conference. (D. R. Lageson, editor and others). 30, 2001. p. 4-6.
- A. A. Bookstrom and S. E. Box. IDAHO. Dispersal of metals in surface environments within and downstream from the Coeur d'Alene mining district, Idaho; a field trip guide. *Northwest Geology, in* Out of the flood and into the panhandle; northern Idaho geology; proceedings from the 26th annual Tobacco Root Geological Society field conference. (D. R. Lageson, editor and others). 30, 2001. p. 32-48.
- R. D. Borchardt. Safer megacities; strong-motion accelerographs for earthquake loss reduction in megacities. *International Workshop on Earthquakes and Megacities, in* Second international workshop on Earthquakes and megacities. 2, December 1999. p. 9-26.
- D. D. Bosch\* and D. W. Hicks. GEORGIA. Observed and simulated recharge to the Claiborne Aquifer at the Plains, Georgia research site. *Proceedings - Georgia Water Resources Conference, in* Proceedings of the 1993 Georgia water resources conference. (K. J. Hatcher, editor). 1993, 1993. p. 189-193.
- S. E. Box, A. A. Bookstrom, L. S. Balistrieri and K. R. Long. IDAHO. Dispersal of metals in surface environments in and downstream of the Coeur d'Alene mining district, Idaho. *Northwest Geology, in* Out of the flood and into the panhandle; northern Idaho geology; proceedings from the 26th annual Tobacco Root Geological Society field conference. (D. R. Lageson, editor and others). 30, 2001. p. 9.
- Dwight Bradley, Tim Kusky\*, Peter Haeussler, Rich Goldfarb, Marti Miller, Julie Dumoulin, S. W. Nelson and Sue Karl. ALASKA. Geologic signature of early Tertiary ridge subduction in Alaska. *Special Paper - Geological Society of America, in* Geology of a transpressional orogen developed during ridge-trench interaction along the North Pacific margin. (V. B. Sisson, editor and others). 371, 2003. p. 19-49.
- G. R. Brooks\*, L. J. Doyle\*, R. A. Davis\*, N. T. DeWitt and B. C. Suthard\*. FLORIDA. Patterns and controls of surface sediment distribution; west-central Florida inner shelf. *Marine Geology, in* Neogene geology of a linked coastal/inner shelf system; west-central Florida. (G. R. Brooks, editor). v. 200, no. 1-4, September 15, 2003. p. 307-324.
- W. E. Brooks (compiler). Mineral resource of the month; cesium. *Geotimes*. v. 48, no. 4, April 2003. p. 35.
- S. M. Brown\*, C. A. Johnson, R. J. Watling\* and W. R. Premo. Constraints on the composition of ore fluids and implications for mineralising events at the Cleo gold deposit, Eastern Goldfields Province, Western Australia. *Australian Journal of Earth Sciences*. v. 50, no. 1, February 2003. p. 19-38.
- G. R. Buell and C. A. Couch. National Water-Quality Assessment Program; environmental distribution of organochlorine compounds in the Apalachicola-Chattahoochee-Flint River basin. *Proceedings - Georgia Water Resources Conference, in* Proceedings of the 1995 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 1995, 1995. p. 46-53.
- J. S. Caine and S. R. Tomusiak\*. COLORADO. Brittle structures and their role in controlling porosity and permeability in a complex Precambrian crystalline-rock aquifer system in the Colorado Rocky Mountain Front Range. *Geological Society of America Bulletin*. v. 115, no. 11, November 2003. p. 1410-1424.
- D. L. Calhoun, E. A. Frick and G. R. Buell. GEORGIA. Effects of urban development on nutrient loads and streamflow, upper Chattahoochee River basin, Georgia, 1976-2001. *Proceedings - Georgia Water Resources Conference, in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.
- D. Canil\*, D. J. Schulze\*, D. Hall\*, B. C. Hearn, Jr. and S. M. Milliken\*. Lithospheric roots beneath western Laurentia; the geochemical signal in mantle garnets. *Canadian Journal of Earth Sciences = Revue Canadienne des Sciences de la Terre*. v. 40, no. 8, August 2003. p. 1027-1051.
- P. D. Capel, A. H. Spexet and S. J. Larson. Occurrence and behavior of the herbicide prometon in the hydrologic system. *Environmental Science & Technology, ES & T*. v. 33, no. 5, March 1, 1999. p. 674-680.
- M. H. Carr. Elevations of water-worn features on Mars; implications for circulation of groundwater. *Journal of Geophysical Research, E, Planets*. v. 107, no. 12, December 25, 2002. 11 p.
- M. H. Carr and J. W. Head, III\*. Oceans on Mars; an assessment of the observations evidence and possible fate. *Journal of Geophysical Research, E, Planets*. v. 108, no. 5, May 25, 2003. 28 p.



- J. A. Chamberlain, Jr.\*, D. O. Terry, Jr.\*, P. W. Stoffer and M. A. Becker\*. SOUTH DAKOTA. Paleontology of the K/T boundary interval; Badlands National Park, South Dakota. Technical Report - National Park Service, Geological Resource Division, *in* Proceedings of the 6th fossil resource conference; 2001 a fossil odyssey. (V. L. Santucci, editor and others). Report no. NRS/NRGRD/GRDTR-01/01, September 2001. p. 11-22. *Available at:* National Park Service, Geological Resources Division, Lakewood, CO, United States.
- M. G. Chapman, C. C. Allen\*, M. T. Gudmundsson\*, V. C. Gulick\*, S. P. Jakobsson\*, B. K. Lucchitta, I. P. Skilling\* and R. B. Waitt. Volcanism and ice interactions on Earth and Mars, *in* Environmental effects on volcanic eruptions; from deep oceans to deep space. (J. R. Zimelman, editor and others). New York, NY: Kluwer Academic/Plenum Publishers, 2000. p. 39-73.
- M. J. Chapman and T. J. Crawford\*. High-yielding wells in metamorphic rocks; influencing factors. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 1991 Georgia water resources conference. (K. J. Hatcher, editor). 1991, 1991. p. 20-21.
- J. A. Chavarria\*, Peter Malin\*, R. D. Catchings and Eylon Shalev\*. A look inside the San Andreas Fault at Parkfield through vertical seismic profiling. *Science*. v. 302, no. 5651, December 5, 2003. p. 1746-1748.
- G. S. Cherry. GEORGIA, SOUTH CAROLINA. Precipitation, ground-water use, and ground-water levels in the vicinity of the Savannah River site, Georgia and South Carolina, 1992-2002. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.
- A. R. Chivas\*, Adriana García\*, Sander van der Kaars\*, M. J. J. Couapel\*, Sabine Holt\*, J. M. Reeves\*, D. J. Wheeler\*, A. D. Switzer\*, C. V. Murray-Wallace\*, Debabrata Banerjee\*, D. M. Price\*, S. X. Wang\*, Grant Pearson\*, N. T. Edgar, Luc Beaufort\*, Patrick De Deckker\*, Ewan Lawson\* and C. B. Cecil. Sea-level and environmental changes since the last interglacial in the Gulf of Carpentaria, Australia; an overview. *Quaternary International*, *in* Australian Quaternary studies; a tribute to Jim Bowler. (John Magee, editor and others). 83-85, 2001. p. 19-46.
- Steen Christensen\* and R. L. Cooley. Experience gained in testing a theory for modelling groundwater flow in heterogeneous media. IAHS-AISH Publication, *in* Calibration and reliability in groundwater modelling; a few steps closer to reality; proceedings of the ModelCARE 2002 conference. (K. Kovar, editor and others). 277, 2002. p. 22-27.
- J. S. Clarke. GEORGIA. The surficial and Brunswick aquifer systems; alternative ground-water resources for coastal Georgia. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.
- J. S. Clarke and R. E. Krause. GEORGIA, SOUTH CAROLINA. Use of ground-water flow models for simulation of water-management scenarios for coastal Georgia and adjacent parts of South Carolina. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2001 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 627-630.
- Jim Constantz. Dams and downstream ground water. *Hydrological Processes*. v. 17, no. 17, December 15, 2003. p. 3533-3535.
- S. D. Craig and Debbie Warner. GEORGIA. Summary of selected U.S. Geological Survey water-resources activities in Georgia. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2001 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 677-680.
- C. H. Cramer. Site-specific seismic-hazard analysis that is completely probabilistic. *Bulletin of the Seismological Society of America*. v. 93, no. 4, August 2003. p. 1841-1846.
- T. J. Crawford\* and M. J. Chapman. GEORGIA, ALABAMA. Hydrogeologic evaluations for high-yielding wells in the Piedmont Province of Georgia and Alabama. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 1991 Georgia water resources conference. (K. J. Hatcher, editor). 1991, 1991. p. 313-314.
- D. M. Crilley and L. J. Torak. GEORGIA. Physical and hydrochemical evidence for lake leakage in Lake Seminole, Georgia. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.
- T. M. Cronin, Ian Boomer\*, G. S. Dwyer\* and J. Rodriguez Lazaro\*. Ostracoda and paleoceanography. *Geophysical Monograph*, *in* The Ostracoda; applications in Quaternary research. (J. A. Holmes, editor and others). 131, 2002. p. 99-119.
- D. L. Danielopol\*, Emi Ito\*, Guy Wansard\*, Takahiro Kamiya\*, T. M. Cronin and Angel Baltanás\*. Techniques for collection and study of Ostracoda. *Geophysical Monograph*, *in* The Ostracoda; applications in Quaternary research. (J. A. Holmes, editor and others). 131, 2002. p. 65-97.
- Kathleen DeGraaff-Surpless\*, J. B. Mahoney\*, J. L. Wooden and M. O. McWilliams\*. Lithofacies control in detrital zircon provenance studies; insights from the Cretaceous Methow Basin, southern Canadian Cordillera. *Geological Society of America Bulletin*. v. 115, no. 8, August 2003. p. 899-915.
- R. P. Denlinger, D. R. H. O'Connell\* and P. K. House\*. ARIZONA. Robust determination of stage and discharge; an example from an extreme flood on the Verde River, Arizona. *Water Science and Application*, *in* Ancient floods, modern hazards; principles and applications of paleoflood hydrology. (P. K. House, editor and others). 5, 2002. p. 127-146.
- J. N. Densmore and J. K. Bohlke. CALIFORNIA. Use of nitrogen isotopes to determine sources of nitrate contamination in two desert basins in California. IAHS-AISH Publication, *in* Interdisciplinary perspectives on drinking water risk assessment and management. (E. G. Reichard, editor and others). 260, 2000. p. 63-73.
- Alice Deschamps\*, D. Greenlee, T. J. Pultz\* and R. Saper\*. Geospatial integration for applications in flood prediction and management in the Red River basin. *International Geoscience and Remote Sensing Symposium*, *in* Remote sensing; integrating our view of the planet; proceedings. (E. F. Ledrew, chairperson). 2002, Volume 6, 2002. p. 3338-3340.
- J. C. DeVivo, E. A. Frick, D. J. Hippe and G. R. Buell. GEORGIA. National Water-Quality Assessment Program; effect of restricted phosphate detergent use and mandated upgrades at two



- wastewater-treatment facilities on water quality, Metropolitan Atlanta, Georgia, 1988-93. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 1995 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 1995, 1995. p. 54-56.
- B. T. Donahue\*, A. C. Hine\*, S. Tebbens\*, S. D. Locker\* and D. C. Twichell. FLORIDA. Late Holocene estuarine-inner shelf interactions; is there evidence of an estuarine retreat path for Tampa Bay, Florida? Marine Geology, *in* Neogene geology of a linked coastal/inner shelf system; west-central Florida. (G. R. Brooks, editor). v. 200, no. 1-4, September 15, 2003. p. 219-241.
- A. W. Droxler\*, R. B. Alley\*, W. R. Howard\*, R. Z. Poore and L. H. Burckle\*. Unique and exceptionally long interglacial marine isotope stage 11; window into Earth warm future climate. Geophysical Monograph, *in* Earth's climate and orbital eccentricity; the marine isotope stage 11 question. (A. W. Droxler, editor and others). 137, 2003. p. 1-14.
- A. W. Droxler\*, R. Z. Poore and L. H. Burckle\* (editors). Earth's climate and orbital eccentricity; the marine isotope stage 11 question. Geophysical Monograph. 137, 2003. 240 p.
- R. F. Dubiel. ARIZONA, NEW MEXICO. The Upper Triassic Chinle Formation, northeastern Arizona and northwestern New Mexico, *in* Field guide to a geologic excursion in the northeastern Navajo Nation. (S. C. Semken, editor). Shiprock, NM: Navajo Community College, 1992. p. 50-55.
- J. J. Dvorak. Volcano geodesy; results of 100 years of surveillance. Cahiers du Centre Européen de Géodynamique et de Sismologie (ECGS), *in* Proceedings of the workshop; new challenges for geodesy in volcanoes monitoring. (J. Barthélemy, editor and others). 8, 1995. p. 1-19.
- G. S. Dwyer\*, T. M. Cronin and P. A. Baker\*. Trace elements in marine ostracodes. Geophysical Monograph, *in* The Ostracoda; applications in Quaternary research. (J. A. Holmes, editor and others). 131, 2002. p. 205-225.
- J. W. East and Charles Scheffler\*. TEXAS. An acoustic velocity measurement system for aiding barge traffic in the Colorado River locks near Matagorda, Texas, *in* 2000 joint conference on Water resources engineering and water resources planning & management. (R. H. Hotchkiss, editor and others). Minneapolis, MN: American Society of Civil Engineers, 2000. p. 1-10.
- R. M. Easton\*, L. E. Edwards and B. R. Wardlaw. Notes on geochronologic and chronostratigraphic units. Geological Society of America Bulletin. v. 115, no. 8, August 2003. p. 1016-1017.
- J. H. Edwards\*, S. E. Harrison\*, S. D. Locker\*, A. C. Hine\* and D. C. Twichell. FLORIDA. Stratigraphic framework of sediment-starved sand ridges on a mixed siliciclastic/carbonate inner shelf; west-central Florida. Marine Geology, *in* Neogene geology of a linked coastal/inner shelf system; west-central Florida. (G. R. Brooks, editor). v. 200, no. 1-4, September 15, 2003. p. 195-217.
- K. R. Edwards\* and C. E. Proffitt. LOUISIANA. Comparison of wetland structural characteristics between created and natural salt marshes in southwest Louisiana, USA. Wetlands (Wilmington, NC). v. 23, no. 2, June 2003. p. 344-356.
- R. P. Eganhouse\*, M. J. Baedeker, I. M. Cozzarelli, G. R. Aiken, K. A. Thorn and T. F. Dorsey\*. Crude oil in a shallow sand and gravel aquifer; II, Organic geochemistry. Applied Geochemistry. v. 8, no. 6, November 1993. p. 551-567.
- H. N. Elsheimer and T. L. Fries. Determination of total tin in silicate rocks by graphite furnace atomic absorption spectrometry. Analytica Chimica Acta. v. 239, no. 1, 1990. p. 145-149.
- G. E. Ericksen and C. G. Cunningham. Precious-metal deposits in the Neogene-Quaternary volcanic complex of the Central Andes, *in* Cordillera de los Andes; geological and mining potential; the new tectonic and metallogenic approach. (V. A. Ramos, chairperson). Mendoza: GRK Servicios Mineros, 1998. 14 p.
- M. C. Erskine\*, J. A. Bartow and W. R. Lettis\*. Road log, Sacramento to the central Diablo Range and return. Guidebook - Pacific Section, American Association of Petroleum Geologists, *in* Field guide to the tectonics of the boundary between the California Coast Ranges and the Great Valley of California. (M. C. Erskine, editor and others). 70, April 1992. p. 35-50.
- M. C. Erskine\*, Jeffrey Unruh\*, W. R. Lettis\* and J. A. Bartow (editors). CALIFORNIA. Field guide to the tectonics of the boundary between the California Coast Ranges and the Great Valley of California. Guidebook - Pacific Section, American Association of Petroleum Geologists. 70, April 1992. 140 p.
- C. Escutia\*, C. H. Nelson\*, G. D. Acton\*, S. L. Eittreim, A. K. Cooper\*, D. A. Warnke\* and J. M. Jaramillo\*. Current controlled deposition on the Wilkes Land continental rise, Antarctica. Memoir - Geological Society of London, *in* Deep-water contourite systems; modern drifts and ancient series, seismic and sedimentary characteristics. (D. A. V. Stow, editor and others). 22, 2002. p. 373-384.
- W. F. Falls, L. G. Harrelson, K. J. Conlon and M. D. Petkewich. GEORGIA. Hydrogeology and water quality of the lower Floridan Aquifer, coastal Georgia, 1999-2000. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2001 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 652-655.
- J. L. Fanning. GEORGIA. Water use in Georgia, 2000; and trends, 1950-2000. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.
- J. L. Fanning. GEORGIA. Water use in Georgia by county for 2000 and water-use trends for 1980-2000. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.
- J. L. Fanning. GEORGIA. Benchmark farms for estimating irrigation water use in Georgia. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 1995 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 1995, 1995. p. 274-275.
- J. L. Fanning. GEORGIA. Water use in Georgia, 1980-89. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 1991 Georgia water resources conference. (K. J. Hatcher, editor). 1991, 1991. p. 10-12.
- C. R. Fenton\*, T. E. Cerling\*, B. P. Nash\*, R. H. Webb and R. J. Poreda\*. ARIZONA. Cosmogenic <sup>3</sup>He ages and geochemical discrimination of lava-dam outburst-flood deposits in western Grand Canyon, Arizona. Water Science and Application, *in* Ancient



- floods, modern hazards; principles and applications of paleoflood hydrology. (P. K. House, editor and others). 5, 2002. p. 191-215.
- Andrea Fildani\*, T. D. Cope\*, S. A. Graham\* and J. L. Wooden. Initiation of the Magallanes foreland basin; timing of the southernmost Patagonian Andes orogeny revised by detrital zircon provenance analysis. *Geology (Boulder)*. v. 31, no. 12, December 2003. p. 1081-1084.
- S. E. G. Findlay\*, R. L. Sinsabaugh\*, W. V. Sobczak and M. Hoosial\*. Metabolic and structural response of hyporheic microbial communities to variations in supply of dissolved organic matter. *Limnology and Oceanography*. v. 48, no. 4, July 2003. p. 1608-1617.
- P. B. Flemings\*, Xiaoli Liu\* and W. J. Winters. Critical pressure and multiphase flow in Blake Ridge gas hydrates. *Geology (Boulder)*. v. 31, no. 12, December 2003. p. 1057-1060.
- A. L. Flint, L. E. Flint, J. A. Hevesi, Frank D'Agnesi and Claudia Faunt. Estimation of regional recharge and travel time through the unsaturated zone in arid climates. *Geophysical Monograph, in Dynamics of fluids in fractured rocks*. (Boris Faybishenko, editor and others). 122, 2000. p. 115-128.
- A. L. Foster. Spectroscopic investigations of arsenic species in solid phases, *in Arsenic in ground water*. (A. H. Welch, editor and others). Boston, MA: Kluwer Academic Publishers, 2003. p. 27-65.
- G. R. Foulger\*, Z. Du\* and B. R. Julian. Icelandic-type crust. *Geophysical Journal International*. v. 155, no. 2, November 2003. p. 567-590.
- Martin Frank\*, Nicholas Whiteley\*, Sabine Kasten\*, J. R. Hein and Keith O'Nions\*. North Atlantic Deep Water export to the Southern Ocean over the past 14 Myr; evidence from Nd and Pb isotopes in ferromanganese crusts. *Paleoceanography*. v. 17, no. 2, June 2002. p. 12.1-12.10.
- E. A. Frick and C. A. Crandall. GEORGIA, ALABAMA, FLORIDA. National Water-Quality Assessment Program; water quality in surficial aquifers in two agricultural areas in Georgia, Alabama, and Florida. Proceedings - Georgia Water Resources Conference, *in Proceedings of the 1995 Georgia water resources conference*. (K. J. Hatcher, editor). (U. S. Geological Survey). 1995, 1995. p. 42-45.
- E. A. Frick, M. B. Gregory, D. L. Calhoun and E. H. Hopkins. GEORGIA. Water quality and upland wetland aquatic communities of Cumberland Island, Georgia, 1999-2000. Proceedings - Georgia Water Resources Conference, *in Proceedings of the 2003 Georgia water resources conference*. (K. J. Hatcher, editor). 2003, 2003.
- E. A. Frick and S. D. Zaugg. GEORGIA. Organic wastewater contaminants in the upper Chattahoochee River basin, Georgia, 1999-2002. Proceedings - Georgia Water Resources Conference, *in Proceedings of the 2003 Georgia water resources conference*. (K. J. Hatcher, editor). 2003, 2003.
- Eiichi Fukuyama\*, W. L. Ellsworth, Felix Waldhauser and Atsuki Kubo\*. Detailed fault structure of the 2000 western Tottori, Japan, earthquake sequence. *Bulletin of the Seismological Society of America*. v. 93, no. 4, August 2003. p. 1468-1478.
- Joel Geier\*, C. I. Voss and Bjorn Dverstorp\*. Conceptual uncertainty in crystalline bedrock; is simple evaluation the only practical approach? IAHS-AISH Publication, *in Calibration and reliability in groundwater modelling; a few steps closer to reality; proceedings of the ModelCARE 2002 conference*. (K. Kovar, editor and others). 277, 2002. p. 296-302.
- Guy Gelfenbaum and G. R. Brooks\*. FLORIDA. The morphology and migration of transverse bars off the west-central Florida coast. *Marine Geology, in Neogene geology of a linked coastal/inner shelf system; west-central Florida*. (G. R. Brooks, editor). v. 200, no. 1-4, September 15, 2003. p. 273-289.
- H. Gluskoter. San Juan Basin, CBM development and production; case study, *in Coalbed methane resource potential in Hungary; a coalbed methane workshop from prospect to production and scientific and technical aspects of Hungarian coalbed methane deposits*. Budapest: Hungarian Geological Survey, 2002. p. 269-280.
- H. Gluskoter. The potential for carbon dioxide sequestration in coal beds; carbon dioxide and methane adsorption in coals from lignite to anthracite, *in Coalbed methane resource potential in Hungary; a coalbed methane workshop from prospect to production and scientific and technical aspects of Hungarian coalbed methane deposits*. Budapest: Hungarian Geological Survey, 2002. p. 250-268.
- M. B. Goldhaber, R. C. Lee, J. R. Hatch, J. C. Pashin\* and J. Treworgy\*. Role of large scale fluid-flow in subsurface arsenic enrichment, *in Arsenic in ground water*. (A. H. Welch, editor and others). Boston, MA: Kluwer Academic Publishers, 2003. p. 127-164.
- G. J. Gonthier and G. C. Mayer. GEORGIA. Slug-test results from a well completed in fractured crystalline rock, U.S. Air Force Plant 6, Marietta, Georgia. Proceedings - Georgia Water Resources Conference, *in Proceedings of the 2003 Georgia water resources conference*. (K. J. Hatcher, editor). 2003, 2003.
- G. J. Gonthier and J. P. Waddell. GEORGIA. Trichloroethene presence in Rottenwood Creek near Air Force Plant 6, Marietta, Georgia, summer 2000. Proceedings - Georgia Water Resources Conference, *in Proceedings of the 2001 Georgia water resources conference*. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 586-589.
- A. J. Gotvald. GEORGIA. Field monitoring of bridge scour at four bridge sites in Georgia. Proceedings - Georgia Water Resources Conference, *in Proceedings of the 2003 Georgia water resources conference*. (K. J. Hatcher, editor). 2003, 2003.
- A. J. Gotvald and M. N. Landers. GEORGIA. Field monitoring of bridge scour in Georgia. Proceedings - Georgia Water Resources Conference, *in Proceedings of the 2001 Georgia water resources conference*. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 518-520.
- A. J. Graettinger\*, H. W. Reeves, Jejung Lee\* and Deepu Dethan\*. Use of input uncertainty and model sensitivity to guide site exploration, *in Groundwater quality modeling and management under uncertainty; proceedings*. (Srikanta Mishra, editor). Reston, VA: American Society of Civil Engineers, 2003. p. 215-225.
- S. F. Greb\*, W. M. Andrews\*, C. F. Eble\*, William DiMichele\*, C. B. Cecil and J. C. Hower\*. Desmoinesian coal beds of the Eastern Interior and surrounding basins; the largest tropical peat mires in Earth history. Special Paper - Geological Society of America, *in Extreme depositional environments; mega end members in geologic time*. (M. A. Chan, editor and others). 370, 2003. p. 127-150.



- M. B. Gregory and W. L. Bryant. GEORGIA, ALABAMA. Effects of urbanization on stream ecosystems in the Piedmont ecoregion of Georgia and Alabama; a study design. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.
- M. B. Gregory and E. A. Frick. Indicator-bacteria concentrations in streams of the Chattahoochee River National Recreation Area, March 1999-April 2000. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2001 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 510-513.
- M. B. Gregory and E. A. Frick. GEORGIA. Summary of fecal-coliform bacteria concentrations in streams of the Chattahoochee River National Recreation Area, Metropolitan Atlanta, Georgia, May-October 1994 and 1995. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2001 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 718-721.
- Jianjun Guo\*, Tsang Leung\*, Edward Josberger and Jenq-Neng Hwang\*. Mapping the spatial distribution and time evolution of snow water equivalent with passive microwave measurements. International Geoscience and Remote Sensing Symposium, *in* Remote sensing; integrating our view of the planet; proceedings. (E. F. LeDrew, chairperson). 2002, Volume 1, 2002. p. 454-456.
- P. J. Haeussler, D. C. Bradley and R. J. Goldfarb. Brittle deformation along the Gulf of Alaska margin in response to Paleocene-Eocene triple junction migration. Special Paper - Geological Society of America, *in* Geology of a transpressional orogen developed during ridge-trench interaction along the North Pacific margin. (V. B. Sisson, editor and others). 371, 2003. p. 119-140.
- S. S. Harlan\*, Larry Heaman\*, A. N. LeCheminant\* and W. R. Premo. Gunbarrel mafic magmatic event; a key 780 Ma time marker for Rodinia plate reconstructions. *Geology* (Boulder). v. 31, no. 12, December 2003. p. 1053-1056.
- S. E. Harrison\*, S. D. Locker\*, A. C. Hine\*, J. H. Edwards\*, D. F. Naar\*, D. C. Twichell and D. J. Mallinson\*. FLORIDA. Sediment-starved sand ridges on a mixed carbonate/siliciclastic inner shelf off west-central Florida. *Marine Geology*, *in* Neogene geology of a linked coastal/inner shelf system; west-central Florida. (G. R. Brooks, editor). v. 200, no. 1-4, September 15, 2003. p. 171-194.
- Egill Hauksson\*, Lucile Jones, Sue Perry and Kate Hutton\*. CALIFORNIA. Emerging from the stress shadow of the 1992  $M_w$  7.3 Landers Southern California earthquake? A preliminary assessment. *Seismological Research Letters*. v. 73, no. 1, February 2002. p. 33-38.
- Christina Heliker. HAWAII. Volcanic hazards on the Island of Hawai'i, *in* Atlas of Hawai'i. (S. P. Juvik, editor and others). Honolulu, HI: University of Hawai'i, 1988. p. 72-73.
- R. T. Helz, John LaBrecque\* and W. G. Pichel\*. SAR; a versatile new tool for earth science. *Geotimes*. v. 48, no. 11, November 2003. p. 14-17.
- D. W. Hicks. GEORGIA. The Independence Day flood of 1994 and effects on water levels in the upper Floridan Aquifer, Albany area, Georgia. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 1995 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 1995, 1995. p. 317-322.
- M. W. Higgins, R. F. Crawford, T. J. Crawford\*, J. O. Costello\*, T. W. Offield and Randy Kath\*. Geology of the Cartersville District and the Cartersville Fault problem; a progress report. Guidebook - Georgia Geological Society, *in* The Cartersville Fault problem; revisited. (R. L. Kath, editor). v. 16, no. 1, November 1996. p. 9-61.
- M. C. Hill and C. R. Tiedeman. Weighting observations in the context of calibrating groundwater models. IAHS-AISH Publication, *in* Calibration and reliability in groundwater modelling; a few steps closer to reality; proceedings of the ModelCARE 2002 conference. (K. Kovar, editor and others). 277, 2002. p. 196-203.
- A. C. Hine\*, G. R. Brooks\*, R. A. Davis, Jr.\*, D. S. Duncan\*, S. D. Locker\*, D. C. Twichell and Guy Gelfenbaum. FLORIDA. The west-central Florida inner shelf and coastal system; a geologic conceptual overview and introduction to the special issue. *Marine Geology*, *in* Neogene geology of a linked coastal/inner shelf system; west-central Florida. (G. R. Brooks, editor). v. 200, no. 1-4, September 15, 2003. p. 1-17.
- D. J. Hippe and J. W. Garrett. GEORGIA. National Water-Quality Assessment Program; water-quality conditions and mass transport in the Flint River, southwestern Georgia, related to the flood of July 1994, caused by Tropical Storm Alberto. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 1995 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 1995, 1995. p. 323-328.
- D. J. Hippe, H. H. Hatzell, L. K. Ham and P. S. Hardy. GEORGIA, FLORIDA. National Water-Quality Assessment Program; pesticide occurrence and temporal distribution in streams draining urban and agricultural basins in Georgia and Florida, 1993-94. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 1995 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 1995, 1995. p. 34-41.
- T. M. Hoefen, R. N. Clark, J. L. Bandfield\*, M. D. Smith\*, J. C. Pearl\* and P. R. Christensen\*. Discovery of olivine in the Nili Fossae region of Mars. *Science*. v. 302, no. 5645, October 24, 2003. p. 627-630.
- Martos Hoffman and Daniel Barstow\*. Exploring Earth. *Hands On!*. v. 25, no. 1, 2002. p. 12-15.
- T. C. Hollocher\*, Karen Chin, K. T. Hollocher\* and M. A. Kruge\*. Bacterial residues in coprolite of herbivorous dinosaurs; role of bacteria in mineralization of feces. *Palaios*. v. 16, no. 6, December 2001. p. 547-565.
- J. M. Holloway and R. A. Dahlgren\*. Nitrogen in rock; occurrences and biogeochemical implications. *Global Biogeochemical Cycles*. v. 16, no. 4, December 2002. 17 p.
- A. J. Horowitz. An evaluation of sediment rating curves for estimating suspended sediment concentrations for subsequent flux calculations. *Hydrological Processes*. v. 17, no. 17, December 15, 2003. p. 3387-3409.
- S. E. Hough, Stacey Martin\*, Roger Bilham\* and G. M. Atkinson\*. A media-based assessment of damage and ground motions from the January 26th, 2001  $M$  7.6 Bhuj, India earthquake. Proceedings of the Indian Academy of Sciences: Earth and Planetary Sciences,



- in* The Bhuj earthquake, Gujarat, India, 2001. (Roger Bilham, editor and others). v. 112, no. 3, September 2003. p. 353-373.
- P. K. House\*, R. H. Webb, V. R. Baker\* and D. R. Levish\* (editors). Ancient floods, modern hazards; principles and applications of paleoflood hydrology. *Water Science and Application*. 5, 2002. 385 p.
- P. A. Hsieh. A brief survey of hydraulic tests in fractured rocks. *Geophysical Monograph, in Dynamics of fluids in fractured rocks*. (Boris Faybishenko, editor and others). 122, 2000. p. 59-66.
- W. B. Hughes and M. P. Berndt. GEORGIA. National Water-Quality Assessment in Georgia; 2001-2011. *Proceedings - Georgia Water Resources Conference, in Proceedings of the 2003 Georgia water resources conference*. (K. J. Hatcher, editor). 2003, 2003.
- A. Iriondo, W. R. Premo and M. J. Kunk. Paleoproterozoic basement in NW Sonora, Mexico; a key portion of the SW margin of Laurentia to reconstruct the Rodinia Supercontinent. *Abstracts - Geological Society of Australia, in From basins to mountains; Rodinia at the turn of the century; Chris Powell memorial symposium*. (K. N. Sircombe, editor and others). 65, 2001. p. 64-67.
- R. D. Jarrett and J. F. England, Jr.\*. Reliability of paleostage indicators for paleoflood studies. *Water Science and Application, in Ancient floods, modern hazards; principles and applications of paleoflood hydrology*. (P. K. House, editor and others). 5, 2002. p. 91-109.
- Y. K. Jin\*, M. W. Lee and T. S. Collett. Relationship of gas hydrate concentration to porosity and reflection amplitude in a research well, Mackenzie Delta, Canada. *Marine and Petroleum Geology*. v. 19, no. 4, April 2002. p. 407-415.
- J. R. Johnson, Friedrich Hörz\*, P. G. Lucey\* and P. R. Christensen\*. Thermal infrared spectroscopy of experimentally shocked anorthosite and pyroxenite; implications for remote sensing of Mars. *Journal of Geophysical Research, E, Planets*. v. 107, no. 10, October 25, 2002. 14 p.
- J. R. Johnson, Friedrich Hörz\* and M. I. Staid. Thermal infrared spectroscopy and modeling of experimentally shocked plagioclase feldspars. *American Mineralogist*. v. 88, no. 10, October 2003. p. 1575-1582.
- S. Y. Johnson, W. J. Stephenson, L. A. Morgan, W. C. Shanks, III and K. L. Pierce. WYOMING. Hydrothermal and tectonic activity in northern Yellowstone Lake, Wyoming. *Geological Society of America Bulletin*. v. 115, no. 8, August 2003. p. 954-971.
- J. K. Joiner. GEORGIA. New water-quality monitoring efforts in Metropolitan Atlanta, Georgia. *Proceedings - Georgia Water Resources Conference, in Proceedings of the 2003 Georgia water resources conference*. (K. J. Hatcher, editor). 2003, 2003.
- B. L. Jolliff\*, A. Knoll\*, R. V. Morris\*, J. Moersch\*, H. McSween\*, M. Gilmore\*, R. E. Arvidson\*, R. Greeley\*, K. Herkenhoff and S. Squyres\*. Remotely sensed geology from lander-based to orbital perspectives; results of FIDO Rover May 2000 field tests. *Journal of Geophysical Research, E, Planets, in FIDO prototype Mars Rover field trial*. (R. E. Arvidson, prefacer). v. 107, no. 11, November 25, 2002. 17 p.
- L. E. Jones. GEORGIA. Saltwater contamination in the upper Floridan Aquifer at Brunswick, Georgia. *Proceedings - Georgia Water Resources Conference, in Proceedings of the 2001 Georgia water resources conference*. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 644-647.
- L. E. Jones and L. J. Torak. GEORGIA, ALABAMA, FLORIDA. Simulated effects of impoundment of Lake Seminole on surface- and ground-water flow in southwestern Georgia and adjacent parts of Alabama and Florida. *Proceedings - Georgia Water Resources Conference, in Proceedings of the 2003 Georgia water resources conference*. (K. J. Hatcher, editor). 2003, 2003.
- M. T. Jorgenson\*, M. Macander\*, J. C. Jorgenson\*, C. L. Ping\* and J. Harden. ALASKA. Ground ice and carbon characteristics of eroding coastal permafrost at Beaufort Lagoon, Northern Alaska. *International Conference on Permafrost, Proceedings, in Proceedings of the Eighth international conference on Permafrost*. (Marcia Phillips, editor and others). 8, Volume 1, 2003. p. 495-500.
- S. J. Kalkhoff, D. W. Kolpin, E. M. Thurman, I. Ferrer\* and D. Barcelo\*. Degradation of chloroacetanilide herbicides; the prevalence of sulfonic and oxanilic acid metabolites in Iowa groundwaters and surface waters. *Environmental Science & Technology, ES & T*. v. 32, no. 11, June 1, 1998. p. 1738-1740.
- R. L. Kath\*, J. O. Costello\*, M. W. Higgins and R. F. Crawford. 30th anniversary field trip; road log. *Guidebook - Georgia Geological Society, in The Cartersville Fault problem; revisited*. (R. L. Kath, editor). v. 16, no. 1, November 1996. p. 97-108.
- H. M. Kelsey\* and Brian Sherrod. WASHINGTON. Late Holocene displacement of the southern Whidbey Island fault zone, northern Puget Lowland, Washington, 2003. 9 p. *Available at*: U. S. Geological Survey, Library, Reston, VA, United States.
- D. D. Khallouf and L. J. Williams. GEORGIA. Structural and lithologic controls on ground-water availability in granite and biotite gneiss in the Conyers, Georgia, area. *Proceedings - Georgia Water Resources Conference, in Proceedings of the 2003 Georgia water resources conference*. (K. J. Hatcher, editor). 2003, 2003.
- D. E. Kile and D. D. Eberl. On the origin of size-dependent and size-independent crystal growth; influence of advection and diffusion. *American Mineralogist*. v. 88, no. 10, October 2003. p. 1514-1521.
- Jin-wook Kim\*, Yoko Furukawa\*, T. L. Daulton\*, Dawn Lavoie and S. W. Newell\*. Characterization of microbially Fe(III)-reduced nontronite; environmental cell-transmission electron microscopy study. *Clays and Clay Minerals*. v. 51, no. 4, August 2003. p. 382-389.
- A. E. Knaak and P. D. Ankcorn. GEORGIA. Quality-assurance and quality-control procedures for an urban water-quality monitoring program, Gwinnett County, Georgia. *Proceedings - Georgia Water Resources Conference, in Proceedings of the 2003 Georgia water resources conference*. (K. J. Hatcher, editor). 2003, 2003.
- Allan Kolker, S. K. Haack, W. F. Cannon, D. B. Westjohn, M. J. Kim\*, Jerome Nriagu\* and L. G. Woodruff. MICHIGAN. Arsenic in southeastern Michigan, *in Arsenic in ground water*. (A. H. Welch, editor and others). Boston, MA: Kluwer Academic Publishers, 2003. p. 281-294.
- D. A. Kramer. Nitrogen. *Mining Engineering*. v. 53, no. 6, June 2001. p. 48-49.
- D. A. Kramer. Magnesium compounds. *Mining Engineering*. v. 53, no. 6, June 2001. p. 46-47.





- D. A. Kramer. Olivine. *Mining Engineering*. v. 53, no. 6, June 2001. p. 49.
- Deborah Kramer. Mineral resource of the month; gallium. *Geotimes*. v. 47, no. 9, September 2002. p. 31.
- R. E. Krause and J. S. Clarke. GEORGIA, SOUTH CAROLINA. Saltwater contamination of ground water at Brunswick, Georgia and Hilton Head Island, South Carolina. *Proceedings - Georgia Water Resources Conference*, in *Proceedings of the 2001 Georgia water resources conference*. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 756-759.
- J. T. Krohelski, K. R. Bradbury\*, R. J. Hunt and S. K. Swanson\*. WISCONSIN. Numerical simulation of groundwater flow in Dane County, Wisconsin. *Bulletin - Wisconsin Geological and Natural History Survey*, Report no. 98, 2000. 31 p.
- H. R. Krouse, R. G. S. Ritchie\* and R. S. Roche\*. Sulphur isotope composition of H<sub>2</sub>S evolved during the non-isothermal pyrolysis of sulphur-containing materials. *Journal of Analytical and Applied Pyrolysis*. v. 12, no. 1, 1987. p. 19-29.
- T. M. Kusky\*, Dwight Bradley, D. T. Donely\*, David Rowley\* and P. J. Haeussler. ALASKA. Controls on intrusion of near-trench magmas of the Sanak-Baranof Belt, Alaska, during Paleogene ridge subduction, and consequences for forearc evolution. *Special Paper - Geological Society of America*, in *Geology of a transpressional orogen developed during ridge-trench interaction along the North Pacific margin*. (V. B. Sisson, editor and others). 371, 2003. p. 269-292.
- K. A. Kvenvolden. Methane hydrate in the global organic carbon cycle. *Terra Nova*. v. 14, no. 5, October 2002. p. 302-306.
- J. R. Lacy, M. T. Stacey\*, J. R. Burau and S. G. Monismith\*. Interaction of lateral baroclinic forcing and turbulence in an estuary. *Journal of Geophysical Research, C, Oceans*. v. 108, no. 3, March 15, 2003. 15 p.
- D. R. Lageson\*, K. S. Kellogg and J. M. O'Neill. MONTANA. Potential for catastrophic landslide failure of northwest flank of Jumbo Mountain, Spanish Peaks Wilderness, Montana. *Northwest Geology*, in *The edge of the Crazy's; geology where the mountains meet the prairie; Tobacco Root Geological Society 22nd annual field conference with the Montana Geological Society*. (D. R. Lageson, editor and others). 27, 1997. p. 13-18.
- M. T. Laitta. GEORGIA, SOUTH CAROLINA, FLORIDA. Linkage of offshore and onshore hydrogeologic data for coastal Georgia and adjacent parts of South Carolina and Florida using a geographic information system. *Proceedings - Georgia Water Resources Conference*, in *Proceedings of the 2001 Georgia water resources conference*. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 764-767.
- M. N. Landers and P. D. Ankcorn. GEORGIA. Effects of land use on streamflow yields of selected constituents from watersheds in Gwinnett County, Georgia. *Proceedings - Georgia Water Resources Conference*, in *Proceedings of the 2003 Georgia water resources conference*. (K. J. Hatcher, editor). 2003, 2003.
- M. N. Landers and P. D. Ankcorn. GEORGIA. Stormflow and baseflow concentration and yields of total nitrogen for watersheds in Gwinnett County, Georgia. *Proceedings - Georgia Water Resources Conference*, in *Proceedings of the 2003 Georgia water resources conference*. (K. J. Hatcher, editor). 2003, 2003.
- R. E. Landis. CBM resource assessment of the Mecsek Basin, Hungary, in *Coalbed methane resource potential in Hungary; a coalbed methane workshop from prospect to production and scientific and technical aspects of Hungarian coalbed methane deposits*. Budapest: Hungarian Geological Survey, 2002. p. 281-304.
- R. E. Landis. Global coal occurrence, in *Coalbed methane resource potential in Hungary; a coalbed methane workshop from prospect to production and scientific and technical aspects of Hungarian coalbed methane deposits*. Budapest: Hungarian Geological Survey, 2002. p. 305-315.
- V. E. Langenheim, T. G. Hildenbrand, R. C. Jachens and A. Griscom. CALIFORNIA. Geophysical setting of the San Fernando Basin, Southern California. *Guidebook - Pacific Section, American Association of Petroleum Geologists*, in *Geology and tectonics of the San Fernando Valley and East Ventura Basin, California*. (T. L. Wright, editor and others). 77, 2001. p. 37-54.
- V. E. Langenheim and R. C. Jachens. Crustal structure of the Peninsular Ranges Batholith from magnetic data; implications for Gulf of California rifting. *Geophysical Research Letters*. v. 30, no. 11, June 1, 2003. 4 p.
- J. D. LaPerriere. ALASKA. Limnology of Harding Lake, Alaska; a deep, subarctic lake. *Lake and Reservoir Management*. v. 19, no. 2, June 2003. p. 93-107.
- J. D. LaPerriere, J. R. Jones\* and D. K. Swanson\*. ALASKA. Limnology of lakes in Gates of the Arctic National Park and Preserve, Alaska. *Lake and Reservoir Management*. v. 19, no. 2, June 2003. p. 108-121.
- J. D. LaPerriere, T. D. Simpson\* and J. R. Jones\*. ALASKA. Comparative limnology of some lakes in interior Alaska. *Lake and Reservoir Management*. v. 19, no. 2, June 2003. p. 122-132.
- H. J. Lee, M. A. Noble and Jingping Xu. CALIFORNIA. Sediment transport and deposition processes near ocean outfalls in Southern California. *ASTM Special Technical Publication. STP*, in *Contaminated sediments; characterization, evaluation, mitigation/restoration, and management strategy performance*. (Jacques Locat, editor and others). 1442, 2003. p. 253-265.
- D. C. Leeth and J. S. Clarke. GEORGIA. Ground-water levels in Georgia, 2001. *Proceedings - Georgia Water Resources Conference*, in *Proceedings of the 2003 Georgia water resources conference*. (K. J. Hatcher, editor). 2003, 2003.
- T. D. Lieberman, J. C. Ciegler and S. C. Lambert. Interactive display and query of near real-time data from a hydrologic alert network. *Proceedings - Georgia Water Resources Conference*, in *Proceedings of the 1993 Georgia water resources conference*. (K. J. Hatcher, editor). 1993, 1993. p. 56-60.
- P. W. Lipman, B. W. Eakins and Hisayoshi Yokose\*. Ups and downs on spreading flanks of ocean-island volcanoes; evidence from Mauna Loa and Kilauea. *Geology (Boulder)*. v. 31, no. 10, October 2003. p. 841-844.
- Jacques Locat\*, Homa Lee, Robert Kayen, Ken Israel, Marie-Claude Savoie\* and Eric Boulanger\*. Shear strength development with burial in Eel River margin slope sediments. *Marine*



- Georesources & Geotechnology. v. 20, no. 2, June 2002. p. 111-135.
- Zhong Lu, Eric Fielding\*, M. R. Patrick\* and C. M. Trautwein. ALASKA. Estimating lava volume by precision combination of multiple baseline spaceborne and airborne interferometric synthetic aperture radar; the 1997 eruption of Okmok Volcano, Alaska. *IEEE Transactions on Geoscience and Remote Sensing*. v. 41, no. 6, Part 1, June 2003. p. 1428-1436.
- Zhong Lu, Charles Wicks, Jr., John Power, Daniel Dzurisin, Wayne Thatcher and Timothy Masterlark. ALASKA. Interferometric synthetic aperture radar studies of Alaska volcanoes. *International Geoscience and Remote Sensing Symposium, in Remote sensing; integrating our view of the planet; proceedings*. (E. F. LeDrew, chairperson). 2002, Volume 1, 2002. p. 191-194.
- Zhong Lu, Tim Wright\* and Chuck Wicks. Deformation of the 2002 Denali Fault earthquakes, mapped by Radarsat-1 interferometry. *Eos, Transactions, American Geophysical Union*. v. 84, no. 41, October 14, 2003. p. 425, 430-431.
- W. B. Lyons\*, R. M. Lent\*, W. C. Burnett\*, Philip Chin\*, W. M. Landing\*, W. H. Orem and J. M. McArthur\*. Jellyfish Lake, Palau; regeneration of C, N, Si, and P in anoxic marine lake sediments. *Limnology and Oceanography*. v. 41, no. 7, November 1996. p. 1394-1403.
- L. B. Magoon. The petroleum system; an exploratory tool to find oil and gas and to assist in risk management, *in Proceedings of the conference on Petroleum systems of SE Asia and Australasia*. (J. V. C. Howes, editor and others). Jakarta: Indonesian Petroleum Association, 1997. p. 25-36.
- M. T. Mangan, C. F. Waythomas, T. P. Miller and F. A. Trusdell. ALASKA. Emmons Lake volcanic center, Alaska Peninsula; source of the late Wisconsin Dawson Tephra, Yukon Territory, Canada. *Canadian Journal of Earth Sciences = Revue Canadienne des Sciences de la Terre*. v. 40, no. 7, July 2003. p. 925-936.
- R. L. Marella. Water use in the Apalachicola-Chattahoochee-Flint River basin, 1990. *Proceedings - Georgia Water Resources Conference, in Proceedings of the 1993 Georgia water resources conference*. (K. J. Hatcher, editor). 1993, 1993. p. 54-55.
- Richard Marston\*, Jack Kleinman and Maynard Miller\*. Geomorphic and forest cover controls on monsoon flooding, central Nepal Himalaya. *Mountain Research and Development*. v. 16, no. 3, August 1996. p. 257-264.
- D. G. Masson\*, N. H. Kenyon\*, J. V. Gardner\* and M. E. Field. Monterey Fan; channel and overbank morphology, *in Atlas of deep water environments; architectural style in turbidite systems*. (K. T. Pickering, editor and others). (Conoco). London: Chapman and Hall, 1995. p. 74-79.
- A. Matmon\*, P. R. Bierman\*, J. Larsen\*, S. Southworth, M. Pavich, R. Finkel\* and M. Caffee\*. NORTH CAROLINA, TENNESSEE. Erosion of an ancient mountain range, the Great Smoky Mountains, North Carolina and Tennessee. *American Journal of Science*. v. 303, no. 9, November 2003. p. 817-855.
- B. E. McCallum and A. J. Horowitz. GEORGIA. A conceptual program for water-quality monitoring in the upper Chattahoochee River basin in Georgia. *Proceedings - Georgia Water Resources Conference, in Proceedings of the 2001 Georgia water resources conference*. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 497-500.
- B. E. McCallum and J. K. Joiner. GEORGIA. Georgia HydroWatch; a new concept in hydrologic monitoring for Georgia. *Proceedings - Georgia Water Resources Conference, in Proceedings of the 2001 Georgia water resources conference*. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 165-168.
- A. D. McGuire, M. Sturm\* and F. S. Chapin, III\*. Arctic transitions in the land-atmosphere system (ATLAS); background, objectives, results, and future directions. *Journal of Geophysical Research, D, Atmospheres, in Arctic transitions in the land-atmosphere system (ATLAS)*. v. 108, no. 2, January 27, 2003. 10 p.
- Gerard McMahon and T. F. Cuffney. A process for characterizing urban land-use intensity in drainage basins. *American Water Resources Association Technical Publication Series TPS, in Proceedings; AWRA's 1999 annual water resources conference; Watershed management to protect declining species*. (Rodney Sakrison, editor and others). 99-4, 1999. p. 257-260.
- D. F. McNeill\*, G. P. Eberli\*, B. H. Lidz, P. K. Swart\* and J. A. M. Kenter\*. Chronostratigraphy of a prograded carbonate platform margin; a record of dynamic slope sedimentation, western Great Bahama Bank. *Special Publication - Society for Sedimentary Geology, in Subsurface geology of a prograding carbonate platform margin, Great Bahama Bank; results of the Bahamas Drilling Project*. (R. N. Ginsburg, editor). 70, June 2001. p. 101-134.
- M. R. Meador, L. R. Brown and Terry Short. Relations between introduced fish and environmental conditions at large geographic scales. *Ecological Indicators*. v. 3, no. 2, June 2003. p. 81-92.
- M. R. Meador and R. M. Goldstein. Assessing water quality at large geographic scales; relations among land use, water physicochemistry, riparian condition, and fish community structure. *Environmental Management (New York)*. v. 31, no. 4, 2003. p. 504-517.
- Steffen Mehl and M. C. Hill. Locally refined block-centred finite-difference groundwater models; evaluation of parameter sensitivity and the consequences for inverse modelling. *IAHS-AISH Publication, in Calibration and reliability in groundwater modelling; a few steps closer to reality; proceedings of the ModelCARE 2002 conference*. (K. Kovar, editor and others). 277, 2002. p. 227-232.
- Anne Melhuish\*, Stephen Bannister\*, Uri ten Brink, Bruce Beaudoin\* and Tim Stern\*. Seismic experiment Ross Ice Shelf 1990/91; characteristics of the seismic reflection data. *Institute of Geological & Nuclear Sciences Science Report, Report no. 93/6*, 1993. 45 p.
- D. M. Miller, J. C. Yount, E. R. Schermer\* and T. J. Felger\*. CALIFORNIA. Preliminary assessment of the recency of faulting at southwestern Fort Irwin, north-central Mojave Desert, California. *San Bernardino County Museum Association Special Publication, in Off limits in the Mojave Desert; field trip guidebook and volume for the 1994 Mojave Desert Quaternary Research Center field trip to Fort Irwin and surrounding areas*. (R. E. Reynolds, editor). 94-1, 1994. p. 41-52.
- M. Miller. Lime. *Mining Engineering*. v. 53, no. 6, June 2001. p. 43-44.



- M. Miller. Flourspar. *Mining Engineering*, v. 53, no. 6, June 2001. p. 33-34.
- N. Mortimer\*, R. H. Herzer\*, N. W. Walker\*, A. T. Calvert, D. Seward\* and G. C. H. Chaproniere\*. Cavalli Seamount, Northland Plateau, SW Pacific Ocean; a Miocene metamorphic core complex? *Journal of the Geological Society of London*, v. 160, no. 6, November 2003. p. 971-983.
- R. A. Morton, J. L. González J.\*, I. D. Correa Arango\*, Otoniel Salazar J.\*, Natasha Tabares G.\* and G. I. López J.\*. Causas y efectos de eventos atípicos de sobrelavado en la Costa Pacifica de Colombia; los eventos de sobrelavado de mayo a agosto de 1977 en la isla El Choncho, delta del Rio San Juan [Causes and effects of atypical overwash events on the Colombian Pacific Coast; overwash events from May to August 1977 on El Choncho Island, San Juan River delta], *in Geología y oceanografía del delta del Rio San Juan (litoral Pacífico Colombiano) (Geology and oceanography of the San Juan River delta, Colombian Pacific Coast)*. (I. D. Correa Arango and others). Medellín: Fondo Editorial Universidad EAFIT, 2001. p. 131-147.
- R. A. Morton, J. L. Kindinger, J. G. Flocks and L. B. Stewart\*. TEXAS. Climatic-eustatic control of Holocene nearshore parasequence development, southeastern Texas Coast. *Transactions - Gulf Coast Association of Geological Societies*, *in* Forty-ninth annual convention of the Gulf Coast Association of Geological Societies, American Association of Petroleum Geologists regional meeting and the Forty-sixth annual convention of the Gulf Coast Section SEPM. (W. C. Terrell, editor and others). 49, 1999. p. 384-395.
- M. S. Mosner. GEORGIA, FLORIDA. Effects of drought on stream discharge and ground-water levels near Lake Seminole, southwestern Georgia and northwestern Florida, October 1999-August 2000. *Proceedings - Georgia Water Resources Conference*, *in* Proceedings of the 2001 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 118-121.
- M. S. Mosner and B. T. Aulenbach. GEORGIA, FLORIDA. Comparison of methods used to estimate lake evaporation for a water budget of Lake Seminole, southwestern Georgia and northwestern Florida. *Proceedings - Georgia Water Resources Conference*, *in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.
- D. R. Muhs and E. A. Bettis, III\*. Quaternary loess-Paleosol sequences as examples of climate-driven sedimentary extremes. *Special Paper - Geological Society of America*, *in* Extreme depositional environments; mega end members in geologic time. (M. A. Chan, editor and others). 370, 2003. p. 53-74.
- F. Nanayama\*, K. Satake\*, R. Furukawa\*, K. Shimokawa\*, B. F. Atwater, K. Shigeno\* and S. Yamaki\*. Unusually large earthquakes inferred from tsunami deposits along the Kuril Trench. *Nature* (London), v. 424, no. 6949, August 7, 2003. p. 660-663.
- A. R. Nelson, S. Y. Johnson, H. M. Kelsey\*, R. E. Wells, B. L. Sherrod, S. K. Pezzopane, Lee-Ann Bradley, R. D. Koehler, III\* and R. C. Bucknam. WASHINGTON. Late Holocene earthquakes on the Toe Jam Hill Fault, Seattle fault zone, Bainbridge Island, Washington. *Geological Society of America Bulletin*, v. 115, no. 11, November 2003. p. 1388-1403.
- C. H. Nelson, E. B. Karabanov\* and S. M. Colman. Late Quaternary turbidite systems in Lake Baikal, Russia, *in* Atlas of deep water environments; architectural style in turbidite systems. (K. T. Pickering, editor and others). (Conoco). London: Chapman and Hall, 1995. p. 29-33.
- K. D. Newell\* and J. R. Hatch. KANSAS. A petroleum system for the Salina Basin in Kansas based on organic geochemistry and geologic analog. *Natural Resources Research (International Association for Mathematical Geology)*, v. 9, no. 3, September 2000. p. 169-200.
- D. J. Nichols and R. F. Fleming\*. COLORADO. Palynology and palynostratigraphy of Maastrichtian, Paleocene, and Eocene strata in the Denver Basin, Colorado. *Rocky Mountain Geology*, *in* Paleontology and stratigraphy of Laramide Strata in the Denver Basin (Part I). (K. R. Johnson, editor and others). v. 37, no. 2, 2002. p. 135-163.
- K. M. Nichols and N. J. Silberling\*. NEVADA. Initial foredeep deposits of the Mid-Mississippian episode of Antler flexural-loading tectonics in the vicinity of Eureka, Nevada, *in* Mississippian source rocks in the Antler Basin of Nevada and associated structural and stratigraphic traps; Eureka, Elko, Nye and White Pine counties, Nevada. (M. W. Hansen, editor and others). Reno, NV: Nevada Petroleum Society, July 1995. p. 87-96.
- C. T. Nietch\*, J. T. Morris\* and D. A. Vroblesky. Biophysical mechanisms of trichloroethene uptake and loss in baldcypress growing in shallow contaminated groundwater. *Environmental Science & Technology*, ES & T. v. 33, no. 17, September 1, 1999. p. 2899-2904.
- D. K. Nordstrom and D. G. Archer\*. Arsenic thermodynamic data and environmental geochemistry, *in* Arsenic in ground water. (A. H. Welch, editor and others). Boston, MA: Kluwer Academic Publishers, 2003. p. 1-25.
- W. R. Normark and P. R. Carlson. Giant submarine canyons; is size any clue to their importance in the rock record? *Special Paper - Geological Society of America*, *in* Extreme depositional environments; mega end members in geologic time. (M. A. Chan, editor and others). 370, 2003. p. 175-190.
- J. E. O'Connor, G. E. Grant\* and J. E. Costa. The geology and geography of floods. *Water Science and Application*, *in* Ancient floods, modern hazards; principles and applications of paleoflood hydrology. (P. K. House, editor and others). 5, 2002. p. 359-385.
- D. W. O'Leary. Canyon-filling debrite indicates that canyon erosion and large-scale mass movement off Georges Bank, USA, are unrelated processes, *in* Atlas of deep water environments; architectural style in turbidite systems. (K. T. Pickering, editor and others). (Conoco). London: Chapman and Hall, 1995. p. 23-25.
- J. M. O'Neill. MONTANA. Field trip guide; neotectonic evolution of the upper Madison Valley, Southwest Montana. *Northwest Geology*, *in* The edge of the Crazyies; geology where the mountains meet the prairie; Tobacco Root Geological Society 22nd annual field conference with the Montana Geological Society. (D. R. Lageson, editor and others). 27, 1997. p. 31-34.
- J. D. Obradovich. COLORADO. Geochronology of Laramide synorogenic strata in the Denver Basin, Colorado. *Rocky Mountain Geology*, *in* Paleontology and stratigraphy of Laramide Strata



- in the Denver Basin (Part I). (K. R. Johnson, editor and others). v. 37, no. 2, 2002. p. 165-171.
- Paul Okubo. Earthquakes, *in* Atlas of Hawai'i. (S. P. Juvik, editor and others). Honolulu, HI: University of Hawai'i, 1988. p. 69-71.
- R. W. Olsen. Standards and specifications for USGS digital terrain data, *in* Proceedings of the international colloquium; Progress in terrain modelling. (O. Jacobi, editor and others). (Danish Society for Photogrammetry and Landsurveying). International Society for Photogrammetry and Remote Sensing, 1987. p. 239-248.
- Donald Olson. Mineral resources of the month; diamond. *Geotimes*. v. 47, no. 12, December 2002. p. 35.
- F. L. Paillet. Using borehole flow logging to optimize hydraulic-test procedures in heterogeneous fractured aquifers. *Hydrogeology Journal*. v. 3, no. 3, 1995. p. 4-20.
- Frederick Paillet and James Lundy\*. Using borehole flow data to characterize the hydraulics of flow paths in operating wellfields, *in* 2000 joint conference on Water resources engineering and water resources planning & management. (R. H. Hotchkiss, editor and others). Minneapolis, MN: American Society of Civil Engineers, 2000. p. 1-10.
- T. M. Parris, R. C. Burruss and P. B. O'Sullivan\*. ALASKA. Deformation and the timing of gas generation and migration in the eastern Brooks Range foothills, Arctic National Wildlife Refuge, Alaska. *AAPG Bulletin*. v. 87, no. 11, November 2003. p. 1823-1846.
- D. F. Payne, A. M. Provost and C. I. Voss. GEORGIA, SOUTH CAROLINA. Preliminary numerical models of saltwater transport in coastal Georgia and southeastern South Carolina. *Proceedings - Georgia Water Resources Conference, in* Proceedings of the 2001 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 656-659.
- M. F. Peck, J. S. Clarke, Malek Abu-Ruman\* and M. T. Laitta. GEORGIA. Hydrogeologic conditions at two seepage ponds in the coastal area of Georgia, August 1999 to February 2001. *Proceedings - Georgia Water Resources Conference, in* Proceedings of the 2001 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 768-771.
- M. F. Peck and D. F. Payne. GEORGIA, FLORIDA, SOUTH CAROLINA. Development of an estimated water-table map for coastal Georgia and adjacent parts of Florida and South Carolina. *Proceedings - Georgia Water Resources Conference, in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.
- N. E. Peters, B. T. Aulenbach and T. P. Meyers\*. GEORGIA. Composition and changes in atmospheric deposition near Atlanta, Georgia, 1986-99. *Proceedings - Georgia Water Resources Conference, in* Proceedings of the 2001 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 483-487.
- N. E. Peters and Seth Rose. GEORGIA. Urbanization effects on streamflow in the Atlanta, Georgia area. *Proceedings - Georgia Water Resources Conference, in* Proceedings of the 2001 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 246-249.
- D. J. W. Piper\*, W. R. Normark and R. N. Hiscott\*. CALIFORNIA. Holocene sand body geometry, Hueneme Fan, California borderland, *in* Atlas of deep water environments; architectural style in turbidite systems. (K. T. Pickering, editor and others). (Conoco). London: Chapman and Hall, 1995. p. 203-206.
- Jozef Plachy. Mineral resource of the month; zinc. *Geotimes*. v. 47, no. 10, October 2002. p. 39.
- P. A. Plunkert. Bauxite and alumina. *Mining Engineering*. v. 53, no. 6, June 2001. p. 22-23.
- C. W. Poag. Grover E. Murray; in memoriam. *Geotimes*. v. 48, no. 9, September 2003. p. 33.
- F. F. Pollitz. Post-seismic relaxation theory on a laterally heterogeneous viscoelastic model. *Geophysical Journal International*. v. 155, no. 1, October 2003. p. 57-78.
- J. W. Pomeroy\*, G. H. Brown\*, T. D. Davies\*, H. G. Jones\*, M. Tranter\* and N. E. Peters. Microscale spatial variation in the deposition of sea-salt components in snow in Celtic mountains. BHS Occasional Paper, *in* Water in the Celtic world; managing resources for the 21st century; 2nd inter-Celtic colloquium. 11, July 2000. p. 205-210.
- L. A. Preston\*, K. C. Creager\*, R. S. Crosson\*, T. M. Brocher and A. M. Trehu\*. Intraslab earthquakes; dehydration of the Cascadia slab. *Science*. v. 302, no. 5648, November 14, 2003. p. 1197-1200.
- Sherlyn Priest and J. S. Clarke. GEORGIA, FLORIDA, SOUTH CAROLINA. Stream-aquifer relations in the coastal area of Georgia and adjacent parts of Florida and South Carolina. *Proceedings - Georgia Water Resources Conference, in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.
- C. D. Reich, E. A. Shinn, T. D. Hickey and A. B. Tihansky. FLORIDA. Tidal and meteorological influences on shallow marine groundwater flow in the upper Florida Keys, *in* The Everglades, Florida Bay, and coral reefs of the Florida Keys; an ecosystem sourcebook. (J. W. Porter, editor and others). Boca Raton, FL: CRC Press, 2002. p. 659-676.
- E. G. Reichard, F. S. Hauchman\* and A. M. Sanchia\* (editors). Interdisciplinary perspectives on drinking water risk assessment and management. IAHS-AISH Publication. 260, 2000. 177 p.
- N. R. Riggs\*, S. R. Ash\*, A. P. Barth\*, G. E. Gehrels\* and J. L. Wooden. ARIZONA. Isotopic age of the Black Forest Bed, Petrified Forest Member, Chinle Formation, Arizona; an example of dating a continental sandstone. *Geological Society of America Bulletin*. v. 115, no. 11, November 2003. p. 1315-1323.
- E. I. Robbins. Utilization of sedimentological, geochemical, and palynological information to determine paleo-functions of ancient coal-forming wetlands. *Scientific Papers - The Mammoth Site of Hot Springs, in* Late Quaternary environments and deep history; a tribute to Paul S. Martin. (D. W. Steadman, editor and others). 3, January 1995. p. 102-116.
- S. M. Roeske\*, L. W. Snee and T. L. Pavlis\*. Dextral-slip reactivation of an arc-forearc boundary during Late Cretaceous-early Eocene oblique convergence in the northern Cordillera. Special Paper - Geological Society of America, *in* Geology of a transpressional orogen developed during ridge-trench interaction



- along the North Pacific margin. (V. B. Sisson, editor and others). 371, 2003. p. 141-169.
- J. T. Rohrbacher. Mined coal and coal mine methane production, *in* Coalbed methane resource potential in Hungary; a coalbed methane workshop from prospect to production and scientific and technical aspects of Hungarian coalbed methane deposits. Budapest: Hungarian Geological Survey, 2002. p. 316-347.
- Lawrence Rowan, S. J. Hooke\*, M. J. Abrams\* and J. C. Mars. NEVADA. Mapping hydrothermally altered rocks at cuprite, Nevada, using the advanced spaceborne thermal emission and reflection radiometer (ASTER), a new satellite-imaging system. *Economic Geology and the Bulletin of the Society of Economic Geologists*. v. 98, no. 5, August 2003. p. 1019-1027.
- T. E. Ruble, G. A. Logan\*, J. E. Blevin\*, H. I. M. Struckmeyer\*, K. Liu\*, M. Ahmed\*, P. J. Eadington\* and R. A. Quezada\*. Geochemistry and charge history of a palaeo-oil column; Jerboa-1, Eyre Sub-basin, Great Australian Bight. *Petroleum Exploration Society of Australia Special Publication, in Eastern Australasian basins symposium 2001; A refocused energy perspective for the future*. (K. C. Hill, editor and others). 1, 2001. p. 521-529.
- J. N. Ryan\*, Menachem Elimelech\*, R. A. Ard\*, R. W. Harvey and P. R. Johnson\*. Bacteriophage PRD1 and silica colloid transport and recovery in an iron oxide-coated sand aquifer. *Environmental Science & Technology*, ES & T. v. 33, no. 1, January 1, 1999. p. 63-73.
- S. J. Ryker. Arsenic in ground water used for drinking water in the United States, *in* Arsenic in ground water. (A. H. Welch, editor and others). Boston, MA: Kluwer Academic Publishers, 2003. p. 165-178.
- R. D. Sagarin. Homeland and climatic security at the crossroads of science and policy. *GSA Today*. v. 13, no. 6, June 2003. p. 58.
- Dipak Sahoo\*, J. A. Smith\*, T. E. Imbrigiotta and M. McLellan\*. Surfactant-enhanced remediation of a trichloroethene-contaminated aquifer; 2, Transport of TCE. *Environmental Science & Technology*, ES & T. v. 32, no. 11, June 1, 1998. p. 1686-1693.
- W. E. Sanford, K. Revesz and J. Deak\*. Inverse modelling using <sup>14</sup>C ages; application to groundwater in the Danube-Tisza interfluvial region of Hungary. *Proceedings - International Association of Hydrogeologists Congress, in New approaches characterizing groundwater flow*. (Klaus-Peter Seiler, editor and others). 31, Vol. 1, 2001. p. 401-404.
- John Sass and W. A. Duffield. EGS over easy; reinvigorating tired geothermal systems and upgrading marginal ones. *Bulletin - Geothermal Resources Council*. v. 32, no. 4, August 2003. p. 150-152.
- B. R. Scanlon\*, Kelley Keese\*, R. C. Reedy\*, Jirka Simunek\* and B. J. Andraski. Variations in flow and transport in thick desert vadose zones in response to paleoclimatic forcing (0-90 kyr); field measurements, modeling, and uncertainties. *Water Resources Research*. v. 39, no. 7, July 2003. 17 p.
- J. M. Schmidt, M. B. Werdon\* and Bruce Wardlaw. New mapping near Iron Creek, Talkeetna Mountains, indicates presence of Nikolai Greenstone. *Professional Report - Alaska. Division of Geological & Geophysical Surveys, in Short notes on Alaska geology 2003*. (K. H. Clautice, editor and others). Report no. 120, 2003. p. 101-108.
- R. A. Schroeder. CALIFORNIA. Transferability of environmental assessments in the Salton Sea basin, California, and other irrigated areas in the Western United States to the Aral Sea basin, Uzbekistan. *NATO ASI Series. Partnership Sub-series 2, Environment, in The Aral Sea basin*. (P. P. Micklin, editor and others). 12, 1996. p. 121-137.
- H. H. Schumann (leader). Land subsidence in the Phoenix area due to ground-water withdrawal, *in* *Geologic hazards in Maricopa County, central Arizona; land subsidence and piedmont flooding*. Tucson, AZ: Arizona Geological Society, 1993.
- S. D. Schwochow\*, R. R. Shroba\*, P. C. Wicklein\*, J. A. Cappa\*, C. S. Hiatt, D. W. Litke, M. L. McCormick and Joseph Sadlick. COLORADO. Atlas of sand, gravel, and quarry aggregate resources, Colorado Front Range counties. *Colorado Geological Survey Open-File Report, Report no. 00-9, 2000*. 1 disc.
- T. Shank\*, D. Fornari\*, D. Yoerger\*, S. Humphris\*, A. Bradley\*, S. Hammond\*, J. Lupton\*, D. Scheirer, R. Collier\*, A. L. Reysenbach\*, K. Ding\*, W. Seyfried\*, D. Butterfield\*, E. Olson\*, M. Lilley\*, Naomi Ward\* and Jonathan Eisen\*. Deep submergence synergy; Alvin and ABE explore the Galápagos Rift at 86°W. *Eos, Transactions, American Geophysical Union*. v. 84, no. 41, October 14, 2003. p. 425, 432-433.
- K. B. Shedd. Mineral resources of the month; cobalt. *Geotimes*. v. 47, no. 8, August 2002. p. 30.
- J. W. Short\*, K. A. Kvenvolden, P. R. Carlson, F. D. Hostettler, R. J. Rosenbauer and B. A. Wright\*. ALASKA. Natural hydrocarbon background in benthic sediments of Prince William Sound, Alaska; oil vs coal. *Environmental Science & Technology*, ES & T. v. 33, no. 1, January 1, 1999. p. 34-42.
- D. A. Singer and Ryoichi Kouda\*. Typing mineral deposits using their grades and tonnages in an artificial neural network. *Natural Resources Research (International Association for Mathematical Geology), in Special issue on Neural networks*. (D. A. Singer, editor and others). v. 12, no. 3, September 2003. p. 201-208.
- D. A. Singer and Ryoichi Kouda\* (editors). *Special issue on Neural networks. Natural Resources Research (International Association for Mathematical Geology)*. v. 12, no. 3, September 2003. p. 153-228.
- K. L. Smith\*, M. B. Gregory and B. J. Wood\*. GEORGIA. Active learning; water-quality education for youth at the annual natural resources conservation workshop field day, Tifton, Georgia. *Proceedings - Georgia Water Resources Conference, in Proceedings of the 2003 Georgia water resources conference*. (K. J. Hatcher, editor). 2003, 2003.
- J. A. Snoke\* and J. C. Lahr. Locating earthquakes; at what distance can the Earth no longer be treated as flat? *Seismological Research Letters*. v. 72, no. 5, October 2001. p. 538-541.
- Darren Spurgeon\*, R. A. Davis, Jr.\* and E. A. Shinnu. FLORIDA. Formation of "beach rock" at Siesta Key, Florida and its influence on barrier island development. *Marine Geology, in Neogene geology of a linked coastal/inner shelf system; west-central Florida*. (G. R. Brooks, editor). v. 200, no. 1-4, September 15, 2003. p. 19-29.
- T. C. Stamey. GEORGIA. Summary of streamflow conditions for calendar year 2000 in Georgia. *Proceedings - Georgia Water Re-*



- sources Conference, *in* Proceedings of the 2001 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 783-786.
- T. C. Stamey. GEORGIA. Floods in central and southwestern Georgia in July 1994. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 1995 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 1995, 1995. p. 313-316.
- S. A. Stanchits\*, D. A. Lockner and A. V. Ponomarev\*. Anisotropic changes in P-wave velocity and attenuation during deformation and fluid infiltration of granite. Bulletin of the Seismological Society of America. v. 93, no. 4, August 2003. p. 1803-1822.
- J. D. Stanesco. ARIZONA. History of erg migration in the Lower Permian De Chelly Sandstone on the Defiance Plateau; eastern Arizona, *in* Field guide to a geologic excursion in the northeastern Navajo Nation. (S. C. Semken, editor). Shiprock, NM: Navajo Community College, 1992. p. 56-62.
- C. H. Stevens\*, Paul Stone and D. C. Greene\*. CALIFORNIA. Correlation of Permian and Triassic deformations in the western Great Basin and eastern Sierra Nevada; evidence from the northern Inyo Mountains near Tinemaha Reservoir, east-central California. Geological Society of America Bulletin. v. 115, no. 10, October 2003. p. 1309-1311.
- K. G. Stollenwerk. Geochemical processes controlling transport of arsenic in groundwater; a review of adsorption, *in* Arsenic in ground water. (A. H. Welch, editor and others). Boston, MA: Kluwer Academic Publishers, 2003. p. 67-100.
- C. D. Storlazzi, J. B. Logan and M. E. Field. HAWAII. Quantitative morphology of a fringing reef tract from high-resolution laser bathymetry; southern Molokai, Hawaii. Geological Society of America Bulletin. v. 115, no. 11, November 2003. p. 1344-1355.
- K. L. Tanaka, J. A. Skinner, Jr., T. M. Hare, T. Joyal and A. Wenker. Resurfacing history of the northern plains of Mars based on geologic mapping of Mars Global Surveyor data. Journal of Geophysical Research, E, Planets, *in* Geophysical detection of surface water on Mars. (S. M. Clifford, prefacer and others). v. 108, no. 4, April 25, 2003. 32 p.
- G. D. Tasker. Some hydrologic effects of climate change for the Apalachicola, Chattahoochee, and Flint river basins. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 1993 Georgia water resources conference. (K. J. Hatcher, editor). 1993, 1993. p. 61-64.
- Lisa Tauxe\* and J. J. Love. HAWAII. Paleointensity in Hawaiian Scientific Drilling Project hole (HSDP2); results from submarine basaltic glass. Geochemistry, Geophysics, Geosystems - G<sup>3</sup>. v. 4, no. 2, 2003. 18 p.
- D. A. Taylor, J. A. Painter and D. F. Payne. GEORGIA, SOUTH CAROLINA, FLORIDA. Development of a water-use database for use in coastal region ground-water models, Georgia, South Carolina, and Florida, 1980-2000. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.
- K. M. Theissen\*, R. B. Dunbar\*, A. K. Cooper, D. A. Mucciarone\* and Dirk Hoffmann\*. The Pleistocene evolution of the East Antarctic ice sheet in the Prydz Bay region; stable isotopic evidence from ODP Site 1167. Global and Planetary Change. v. 39, no. 3-4, November 2003. p. 227-256.
- L. Tian\*, T. Yao\*, P. F. Schuster, J. W. C. White\*, K. Ichiyonagi\*, E. Pendall\*, J. Pu\* and W. Yu\*. Oxygen-18 concentrations in recent precipitation and ice cores on the Tibetan Plateau. Journal of Geophysical Research, D, Atmospheres. v. 108, no. 9, May 16, 2003. 10 p.
- C. R. Tiedeman and P. A. Hsieh. Evaluation of longitudinal dispersivity estimates from forced-gradient tracer tests in heterogeneous aquifers. IAHS-AISH Publication, *in* Calibration and reliability in groundwater modelling; a few steps closer to reality; proceedings of the ModelCARE 2002 conference. (K. Kovar, editor and others). 277, 2002. p. 168-174.
- L. J. Torak. GEORGIA, FLORIDA. Assessment of karst features underlying Lake Seminole, southwestern Georgia and northwestern Florida, using orthorectified photographs of preimpoundment conditions and hydrographic maps. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.
- L. J. Torak. FLORIDA. Physical and hydrochemical evidence of surface-water/ground-water mixing in and near Lake Seminole, southwestern Georgia and northwestern Florida. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2001 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 122-126.
- M. E. Torres\*, Gerhard Bohrmann\*, T. E. Dubé\* and F. G. Poole. Formation of modern and Paleozoic stratiform barite at cold methane seeps on continental margins. Geology (Boulder). v. 31, no. 10, October 2003. p. 897-900.
- D. C. Trabant, R. M. Krimmel, K. A. Echelmeyer\*, S. L. Zirnheld\* and D. H. Elsberg\*. ALASKA. The slow advance of a calving glacier; Hubbard Glacier, Alaska, U.S.A. Annals of Glaciology, *in* Papers from the International symposium on Fast glacier flow. (C. F. Raymond, prefacer and others). 36, 2003. p. 45-50.
- A. M. Tréhu\*, Gerhard Bohrmann\*, F. R. Rack\*, M. E. Torres\*, N. L. Bangs\*, S. R. Barr\*, W. S. Borowski\*, G. E. Claypool\*, T. S. Collett, M. E. Delwiche\*, G. R. Dickens\*, D. S. Goldberg\*, Eulàlia Gràcia\*, Gilles Guèrin\*, Melanie Holland\*, J. E. Johnson\*, Young-Joo Lee\*, Char-Shine Liu\*, P. E. Long\*, A. V. Milkov\*, Michael Riedel\*, Peter Schultheiss\*, Su Xin\*, Barbara Teichert\*, Hitoshi Tomaru\*, Maarten Vanneste\*, Mahito Watanabe\*, J. L. Weinberger\* and Mary Chapman\*. Proceedings of the Ocean Drilling Program, initial reports, drilling gas hydrates on Hydrate Ridge, Cascadia continental margin; covering Leg 204 of the cruises of the drilling vessel JOIDES Resolution Victoria, British Columbia, Canada, to Victoria, British Columbia, Canada; sites 1244-1252, 7 July-2 September 2002. Proceedings of the Ocean Drilling Program, Part A: Initial Reports. 204, November 2003. variously paginated.
- A. M. Tréhu\*, Gerhard Bohrmann\*, F. R. Rack\*, M. E. Torres\*, N. L. Bangs\*, S. R. Barr\*, W. S. Borowski\*, G. E. Claypool\*, T. S. Collett, M. E. Delwiche\*, G. R. Dickens\*, D. S. Goldberg\*, Eulàlia Gràcia\*, Gilles Guèrin\*, Melanie Holland\*, J. E. Johnson\*, Young-Joo Lee\*, Char-Shine Liu\*, P. E. Long\*, A. V. Milkov\*, Michael Riedel\*, Peter Schultheiss\*, Su Xin\*, Barbara Teichert\*, Hitoshi Tomaru\*, Maarten Vanneste\*, Mahito Watanabe\* and J. L. Weinberger\*. Site 1244. Proceedings of the



- Ocean Drilling Program, Part A: Initial Reports, *in* Proceedings of the Ocean Drilling Program, initial reports, drilling gas hydrates on Hydrate Ridge, Cascadia continental margin; covering Leg 204 of the cruises of the drilling vessel JOIDES Resolution Victoria, British Columbia, Canada, to Victoria, British Columbia, Canada; sites 1244-1252, 7 July-2 September 2002. (A. M. Tréhu and others). (Ocean Drilling Program, Leg 204, Shipboard Scientific Party). 204, November 2003. 132 p.
- A. M. Tréhu\*, Gerhard Bohrmann\*, F. R. Rack\*, M. E. Torres\*, N. L. Bangs\*, S. R. Barr\*, W. S. Borowski\*, G. E. Claypool\*, T. S. Collett, M. E. Delwiche\*, G. R. Dickens\*, D. S. Goldberg\*, Eulàlia Gràcia\*, Gilles Guèrin\*, Melanie Holland\*, J. E. Johnson\*, Young-Joo Lee\*, Char-Shine Liu\*, P. E. Long\*, A. V. Milkov\*, Michael Riedel\*, Peter Schultheiss\*, Su Xin\*, Barbara Teichert\*, Hitoshi Tomaru\*, Maarten Vanneste\*, Mahito Watanabe\* and J. L. Weinberger\*. Site 1245. Proceedings of the Ocean Drilling Program, Part A: Initial Reports, *in* Proceedings of the Ocean Drilling Program, initial reports, drilling gas hydrates on Hydrate Ridge, Cascadia continental margin; covering Leg 204 of the cruises of the drilling vessel JOIDES Resolution Victoria, British Columbia, Canada, to Victoria, British Columbia, Canada; sites 1244-1252, 7 July-2 September 2002. (A. M. Tréhu and others). (Ocean Drilling Program, Leg 204, Shipboard Scientific Party). 204, November 2003. 131 p.
- A. M. Tréhu\*, Gerhard Bohrmann\*, F. R. Rack\*, M. E. Torres\*, N. L. Bangs\*, S. R. Barr\*, W. S. Borowski\*, G. E. Claypool\*, T. S. Collett, M. E. Delwiche\*, G. R. Dickens\*, D. S. Goldberg\*, Eulàlia Gràcia\*, Gilles Guèrin\*, Melanie Holland\*, J. E. Johnson\*, Young-Joo Lee\*, Char-Shine Liu\*, P. E. Long\*, A. V. Milkov\*, Michael Riedel\*, Peter Schultheiss\*, Su Xin\*, Barbara Teichert\*, Hitoshi Tomaru\*, Maarten Vanneste\*, Mahito Watanabe\* and J. L. Weinberger\*. Site 1249. Proceedings of the Ocean Drilling Program, Part A: Initial Reports, *in* Proceedings of the Ocean Drilling Program, initial reports, drilling gas hydrates on Hydrate Ridge, Cascadia continental margin; covering Leg 204 of the cruises of the drilling vessel JOIDES Resolution Victoria, British Columbia, Canada, to Victoria, British Columbia, Canada; sites 1244-1252, 7 July-2 September 2002. (A. M. Tréhu and others). (Ocean Drilling Program, Leg 204, Shipboard Scientific Party). 204, November 2003. 98 p.
- A. M. Tréhu\*, Gerhard Bohrmann\*, F. R. Rack\*, M. E. Torres\*, N. L. Bangs\*, S. R. Barr\*, W. S. Borowski\*, G. E. Claypool\*, T. S. Collett, M. E. Delwiche\*, G. R. Dickens\*, D. S. Goldberg\*, Eulàlia Gràcia\*, Gilles Guèrin\*, Melanie Holland\*, J. E. Johnson\*, Young-Joo Lee\*, Char-Shine Liu\*, P. E. Long\*, A. V. Milkov\*, Michael Riedel\*, Peter Schultheiss\*, Su Xin\*, Barbara Teichert\*, Hitoshi Tomaru\*, Maarten Vanneste\*, Mahito Watanabe\* and J. L. Weinberger\*. Leg 204 summary. Proceedings of the Ocean Drilling Program, Part A: Initial Reports, *in* Proceedings of the Ocean Drilling Program, initial reports, drilling gas hydrates on Hydrate Ridge, Cascadia continental margin; covering Leg 204 of the cruises of the drilling vessel JOIDES Resolution Victoria, British Columbia, Canada, to Victoria, British Columbia, Canada; sites 1244-1252, 7 July-2 September 2002. (A. M. Tréhu and others). (Ocean Drilling Program, Leg 204, Shipboard Scientific Party). 204, November 2003. 75 p.
- A. M. Tréhu\*, Gerhard Bohrmann\*, F. R. Rack\*, M. E. Torres\*, N. L. Bangs\*, S. R. Barr\*, W. S. Borowski\*, G. E. Claypool\*, T. S. Collett, M. E. Delwiche\*, G. R. Dickens\*, D. S. Goldberg\*, Eulàlia Gràcia\*, Gilles Guèrin\*, Melanie Holland\*, J. E. Johnson\*, Young-Joo Lee\*, Char-Shine Liu\*, P. E. Long\*, A. V. Milkov\*, Michael Riedel\*, Peter Schultheiss\*, Su Xin\*, Barbara Teichert\*, Hitoshi Tomaru\*, Maarten Vanneste\*, Mahito Watanabe\* and J. L. Weinberger\*. Site 1251. Proceedings of the Ocean Drilling Program, Part A: Initial Reports, *in* Proceedings of the Ocean Drilling Program, initial reports, drilling gas hydrates on Hydrate Ridge, Cascadia continental margin; covering Leg 204 of the cruises of the drilling vessel JOIDES Resolution Victoria, British Columbia, Canada, to Victoria, British Columbia, Canada; sites 1244-1252, 7 July-2 September 2002. (A. M. Tréhu and others). (Ocean Drilling Program, Leg 204, Shipboard Scientific Party). 204, November 2003. 119 p.
- A. M. Tréhu\*, Gerhard Bohrmann\*, F. R. Rack\*, M. E. Torres\*, N. L. Bangs\*, S. R. Barr\*, W. S. Borowski\*, G. E. Claypool\*, T. S. Collett, M. E. Delwiche\*, G. R. Dickens\*, D. S. Goldberg\*, Eulàlia Gràcia\*, Gilles Guèrin\*, Melanie Holland\*, J. E. Johnson\*, Young-Joo Lee\*, Char-Shine Liu\*, P. E. Long\*, A. V. Milkov\*, Michael Riedel\*, Peter Schultheiss\*, Su Xin\*, Barbara Teichert\*, Hitoshi Tomaru\*, Maarten Vanneste\*, Mahito Watanabe\* and J. L. Weinberger\*. Site 1250. Proceedings of the Ocean Drilling Program, Part A: Initial Reports, *in* Proceedings of the Ocean Drilling Program, initial reports, drilling gas hydrates on Hydrate Ridge, Cascadia continental margin; covering Leg 204 of the cruises of the drilling vessel JOIDES Resolution Victoria, British Columbia, Canada, to Victoria, British Columbia, Canada; sites 1244-1252, 7 July-2 September 2002. (A. M. Tréhu and others). (Ocean Drilling Program, Leg 204, Shipboard Scientific Party). 204, November 2003. 100 p.
- A. M. Tréhu\*, Gerhard Bohrmann\*, F. R. Rack\*, M. E. Torres\*, N. L. Bangs\*, S. R. Barr\*, W. S. Borowski\*, G. E. Claypool\*, T. S. Collett, M. E. Delwiche\*, G. R. Dickens\*, D. S. Goldberg\*, Eulàlia Gràcia\*, Gilles Guèrin\*, Melanie Holland\*, J. E. Johnson\*, Young-Joo Lee\*, Char-Shine Liu\*, P. E. Long\*, A. V. Milkov\*, Michael Riedel\*, Peter Schultheiss\*, Su Xin\*, Barbara Teichert\*, Hitoshi Tomaru\*, Maarten Vanneste\*, Mahito Watanabe\* and J. L. Weinberger\*. Explanatory notes. Proceedings of the Ocean Drilling Program, Part A: Initial Reports, *in* Proceedings of the Ocean Drilling Program, initial reports, drilling gas hydrates on Hydrate Ridge, Cascadia continental margin; covering Leg 204 of the cruises of the drilling vessel JOIDES Resolution Victoria, British Columbia, Canada, to Victoria, British Columbia, Canada; sites 1244-1252, 7 July-2 September 2002. (A. M. Tréhu and others). (Ocean Drilling Program, Leg 204, Shipboard Scientific Party). 204, November 2003. 102 p.
- A. M. Tréhu\*, Gerhard Bohrmann\*, F. R. Rack\*, M. E. Torres\*, N. L. Bangs\*, S. R. Barr\*, W. S. Borowski\*, G. E. Claypool\*, T. S. Collett, M. E. Delwiche\*, G. R. Dickens\*, D. S. Goldberg\*, Eulàlia Gràcia\*, Gilles Guèrin\*, Melanie Holland\*, J. E. Johnson\*, Young-Joo Lee\*, Char-Shine Liu\*, P. E. Long\*, A. V. Milkov\*, Michael Riedel\*, Peter Schultheiss\*, Su Xin\*, Barbara Teichert\*, Hitoshi Tomaru\*, Maarten Vanneste\*, Mahito Watanabe\* and J. L. Weinberger\*. Site 1247. Proceedings of the Ocean Drilling Program, Part A: Initial Reports, *in* Proceedings of the Ocean Drilling Program, initial reports, drilling gas hydrates on Hydrate Ridge, Cascadia continental margin; covering Leg 204 of the cruises of the drilling vessel JOIDES Resolution Victoria, British Columbia, Canada, to Victoria, British Columbia, Canada; sites 1244-1252, 7 July-2 September 2002. (A. M. Tréhu and others).



- ers). (Ocean Drilling Program, Leg 204, Shipboard Scientific Party). 204, November 2003. 84 p.
- A. M. Tréhu\*, Gerhard Bohrmann\*, F. R. Rack\*, M. E. Torres\*, N. L. Bangs\*, S. R. Barr\*, W. S. Borowski\*, G. E. Claypool\*, T. S. Collett, M. E. Delwiche\*, G. R. Dickens\*, D. S. Goldberg\*, Eulàlia Gràcia\*, Gilles Guèrin\*, Melanie Holland\*, J. E. Johnson\*, Young-Joo Lee\*, Char-Shine Liu\*, P. E. Long\*, A. V. Milkov\*, Michael Riedel\*, Peter Schultheiss\*, Su Xin\*, Barbara Teichert\*, Hitoshi Tomaru\*, Maarten Vanneste\*, Mahito Watanabe\* and J. L. Weinberger\*. Site 1252. Proceedings of the Ocean Drilling Program, Part A: Initial Reports, *in* Proceedings of the Ocean Drilling Program, initial reports, drilling gas hydrates on Hydrate Ridge, Cascadia continental margin; covering Leg 204 of the cruises of the drilling vessel JOIDES Resolution Victoria, British Columbia, Canada, to Victoria, British Columbia, Canada; sites 1244-1252, 7 July-2 September 2002. (A. M. Tréhu and others). (Ocean Drilling Program, Leg 204, Shipboard Scientific Party). 204, November 2003. 62 p.
- A. M. Tréhu\*, Gerhard Bohrmann\*, F. R. Rack\*, M. E. Torres\*, N. L. Bangs\*, S. R. Barr\*, W. S. Borowski\*, G. E. Claypool\*, T. S. Collett, M. E. Delwiche\*, G. R. Dickens\*, D. S. Goldberg\*, Eulàlia Gràcia\*, Gilles Guèrin\*, Melanie Holland\*, J. E. Johnson\*, Young-Joo Lee\*, Char-Shine Liu\*, P. E. Long\*, A. V. Milkov\*, Michael Riedel\*, Peter Schultheiss\*, Su Xin\*, Barbara Teichert\*, Hitoshi Tomaru\*, Maarten Vanneste\*, Mahito Watanabe\* and J. L. Weinberger\*. Site 1246. Proceedings of the Ocean Drilling Program, Part A: Initial Reports, *in* Proceedings of the Ocean Drilling Program, initial reports, drilling gas hydrates on Hydrate Ridge, Cascadia continental margin; covering Leg 204 of the cruises of the drilling vessel JOIDES Resolution Victoria, British Columbia, Canada, to Victoria, British Columbia, Canada; sites 1244-1252, 7 July-2 September 2002. (A. M. Tréhu and others). (Ocean Drilling Program, Leg 204, Shipboard Scientific Party). 204, November 2003. 67 p.
- A. M. Tréhu\*, Gerhard Bohrmann\*, F. R. Rack\*, M. E. Torres\*, N. L. Bangs\*, S. R. Barr\*, W. S. Borowski\*, G. E. Claypool\*, T. S. Collett, M. E. Delwiche\*, G. R. Dickens\*, D. S. Goldberg\*, Eulàlia Gràcia\*, Gilles Guèrin\*, Melanie Holland\*, J. E. Johnson\*, Young-Joo Lee\*, Char-Shine Liu\*, P. E. Long\*, A. V. Milkov\*, Michael Riedel\*, Peter Schultheiss\*, Su Xin\*, Barbara Teichert\*, Hitoshi Tomaru\*, Maarten Vanneste\*, Mahito Watanabe\* and J. L. Weinberger\*. Site 1248. Proceedings of the Ocean Drilling Program, Part A: Initial Reports, *in* Proceedings of the Ocean Drilling Program, initial reports, drilling gas hydrates on Hydrate Ridge, Cascadia continental margin; covering Leg 204 of the cruises of the drilling vessel JOIDES Resolution Victoria, British Columbia, Canada, to Victoria, British Columbia, Canada; sites 1244-1252, 7 July-2 September 2002. (A. M. Tréhu and others). (Ocean Drilling Program, Leg 204, Shipboard Scientific Party). 204, November 2003. 75 p.
- J. H. Trexler, Jr.\*, P. H. Cashman\*, J. C. Cole, W. S. Snyder\*, R. M. Tosdal\* and V. I. Davydov\*. Widespread effects of Middle Mississippian deformation in the Great Basin of western North America. *Geological Society of America Bulletin*. v. 115, no. 10, October 2003. p. 1278-1288.
- D. C. Twichell, G. R. Brooks\*, Guy Gelfenbaum, Valerie Paskevich and B. T. Donahue\*. FLORIDA. Sand ridges off Sarasota, Florida; a complex facies boundary on a low-energy inner shelf environment. *Marine Geology, in* Neogene geology of a linked coastal/inner shelf system; west-central Florida. (G. R. Brooks, editor). v. 200, no. 1-4, September 15, 2003. p. 243-262.
- D. C. Twichell, W. C. Schwab and N. H. Kenyon\*. Geometry of sandy deposits at the distal edge of the Mississippi Fan, Gulf of Mexico, *in* Atlas of deep water environments; architectural style in turbidite systems. (K. T. Pickering, editor and others). (Conoco). London: Chapman and Hall, 1995. p. 282-286.
- B. S. Van Gosen, G. P. Meeker and I. K. Brownfield. Talc; its relation to asbestiform amphiboles and the asbestos in crayons controversy. Forum on the Geology of Industrial Minerals, *in* 2001 industrial minerals in Canada; program and extended abstracts for the 37th forum on The geology of industrial minerals. (G. J. Simandl, compiler and others). 37, 2001. p. 99-102.
- D. W. Vasco\*, Charles Wicks, Jr., Kenzi Karasaki\* and Osni Marques\*. Geodetic imaging; reservoir monitoring using satellite interferometry. *Geophysical Journal International*. v. 149, no. 3, June 2002. p. 555-571.
- M. P. Verma\*, J. L. Quijano\*, C. A. Johnson, J. Y. Gerardo\* and Victor Arellano\*. Origin of rainwater acidity near the Los Azufres geothermal field, Mexico. *Geothermics, in* Environmental aspects of geothermal development. (T. M. Hunt, editor). v. 29, no. 4-5, October 2000. p. 593-608.
- R. L. Virta. Ball clay. *Mining Engineering*. v. 53, no. 6, June 2001. p. 20-21.
- R. L. Virta. Mineral resource of the month; asbestos. *Geotimes*. v. 48, no. 3, March 2003. p. 32.
- R. L. Virta. Fire clay. *Mining Engineering*. v. 53, no. 6, June 2001. p. 32-33.
- R. L. Virta. Common clay and shale. *Mining Engineering*. v. 53, no. 6, June 2001. p. 29.
- J. R. Vogel and G. O. Brown\*. Geostatistics and the representative elementary volume of gamma ray tomography attenuation in rock cores. *Geological Society Special Publications, in* Applications of X-ray computed tomography in the geosciences. (F. Mees, editor and others). 215, 2003. p. 81-93.
- J. P. Waddell and G. C. Mayer. Effects of Fenton's reagent and potassium permanganate applications of indigenous subsurface microbiota; a literature review. Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.
- R. B. Waitt. Great Holocene floods along Jokulsa a Fjollum, North Iceland. Special Publication of the International Association of Sedimentologists, *in* Flood and megaflood processes and deposits; recent and ancient examples. (I. P. Martini, editor and others). 32, 2002. p. 37-63.
- P. J. Wallace\*, S. A. Carn\*, W. I. Rose\*, G. J. S. Bluth\* and Terry Gerlach. Integrating petrologic and remote sensing perspectives on magmatic volatiles and volcanic degassing. *Eos, Transactions, American Geophysical Union*. v. 84, no. 42, October 21, 2003. p. 441, 446-447.
- M. A. Walvoord, F. M. Phillips\*, D. A. Stonestrom, R. D. Evans\*, P. C. Hartsough\*, B. D. Newman\* and R. G. Striegl. A reservoir of nitrate beneath Desert soils. *Science*. v. 302, no. 5647, November 7, 2003. p. 1021-1024.





- R. H. Webb, J. B. Blainey and D. W. Hyndman\*. UTAH, ARIZONA. Paleoflood hydrology of the Paria River, southern Utah and northern Arizona, USA. *Water Science and Application, in Ancient floods, modern hazards; principles and applications of paleoflood hydrology*. (P. K. House, editor and others). 5, 2002. p. 295-310.
- R. H. Webb and R. D. Jarrett. One-dimensional estimation techniques for discharges of paleofloods and historical floods. *Water Science and Application, in Ancient floods, modern hazards; principles and applications of paleoflood hydrology*. (P. K. House, editor and others). 5, 2002. p. 111-125.
- J. G. Webster\* and D. K. Nordstrom. Geothermal arsenic; the source, transport and fate of arsenic in geothermal systems, *in Arsenic in ground water*. (A. H. Welch, editor and others). Boston, MA: Kluwer Academic Publishers, 2003. p. 101-125.
- A. H. Welch and K. G. Stollenwerk (editors). *Arsenic in ground water*. Boston, MA: Kluwer Academic Publishers, 2003. 475 p.
- A. H. Welch, K. G. Stollenwerk, D. K. Maurer and L. S. Feinson. In situ arsenic remediation in a fractured, alkaline aquifer, *in Arsenic in ground water*. (A. H. Welch, editor and others). Boston, MA: Kluwer Academic Publishers, 2003. p. 403-419.
- J. A. Westgate\* and N. D. Naeser. Tephrochronology and fission-track dating, *in Dating methods for Quaternary deposits*. (N. W. Rutter, editor and others). St. John's, NF: Geological Association of Canada, 1995. p. 15-28.
- A. F. White and M. L. Peterson\*. The reduction of aqueous metal species on the surfaces of Fe(II)-containing oxides; the role of surface passivation. ACS Symposium Series, *in Mineral-water interfacial reactions; kinetics and mechanisms*. (D. L. Sparks, editor and others). 715, 1999. p. 323-341.
- W. B. White\*, Y. M. Tourre\*, Mathew Barlow\* and Mike Dettinger. A delayed action oscillator shared by biennial, interannual, and decadal signals in the Pacific Basin. *Journal of Geophysical Research, C, Oceans*. v. 108, no. 3, March 15, 2003. 15 p.
- M. A. Widdowson\*, F. H. Chapelle and J. S. Brauner\*. Analytical method for optimal source reduction with monitored natural attenuation in contaminated aquifers, *in Groundwater quality modeling and management under uncertainty; proceedings*. (Srikanta Mishra, editor). Reston, VA: American Society of Civil Engineers, 2003. p. 172-178.
- L. J. Williams. GEORGIA. Influence of foliation fracture systems on water availability in the Lawrenceville, Georgia, area. *Proceedings - Georgia Water Resources Conference, in Proceedings of the 2003 Georgia water resources conference*. (K. J. Hatcher, editor). 2003, 2003.
- C. Willis. Inverse Sturm-Liouville problems with two discontinuities. *Inverse Problems*. v. 1, no. 3, August 1985. p. 263-289.
- R. P. Wintsch\*, K. L. Kelsheimer\*, M. J. Kunk and J. N. Aleinikoff. A new look at the Alleghanian metamorphic overprint of Acadian metamorphic rocks in southern New England; evidence from structure, petrology and thermochronology, *in Guidebook for geological field trips in New England*. (D. P. West, Jr., editor and others). Geological Society of America, 2001. p. VI-V26.
- A. P. Wolfe\*, Alison van Gorp\* and J. S. Baron. COLORADO. Recent ecological biogeochemical changes in alpine lakes of Rocky Mountain National Park (Colorado, USA); a response to anthropogenic nitrogen deposition. *Geobiology*. v. 1, no. 2, October 2003. p. 153-168.
- L. A. Woodward\*, M. D. Kleinkopf and H. R. Duchene\*. MONTANA. Tectonic evolution and geophysics of central Montana. Northwest Geology, *in The edge of the Crazy's; geology where the mountains meet the prairie; Tobacco Root Geological Society 22nd annual field conference with the Montana Geological Society*. (D. R. Lageson, editor and others). 27, 1997. p. 51-77.
- T. M. Yanosky and R. D. Jarrett. Dendrochronologic evidence for the frequency and magnitude of paleofloods. *Water Science and Application, in Ancient floods, modern hazards; principles and applications of paleoflood hydrology*. (P. K. House, editor and others). 5, 2002. p. 77-89.
- C. L. Zumsteg\*, G. R. Himmelberg\*, S. M. Karl and P. J. Haeussler. ALASKA. Metamorphism within the Chugach accretionary complex on southern Baranof Island, Southeastern Alaska. Special Paper - Geological Society of America, *in Geology of a transpressional orogen developed during ridge-trench interaction along the North Pacific margin*. (V. B. Sisson, editor and others). 371, 2003. p. 253-267.

## 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.**

Malek Abu-Ruman\* and D. F. Payne. GEORGIA, SOUTH CAROLINA, FLORIDA. Model framework and preliminary results of the regional MODFLOW ground-water flow model of coastal Georgia, South Carolina, and Florida [abstr.] *Proceedings - Georgia Water Resources Conference, in Proceedings of the 2003 Georgia water resources conference*. (K. J. Hatcher, editor). 2003, 2003.

V. V. Akinin\*, E. Miller\* and J. Wooden. SHRIMP dating of lower crust xenoliths from Bering Sea region [abstr.] *Geochimica et Cosmochimica Acta, in Abstracts of the 12th annual V. M. Goldschmidt conference*. v. 66, no. 15A, August 2002. p. 10.

P. N. Albertson. FLORIDA, GEORGIA. Simulated effects of pumpage and climatic conditions on stream-aquifer flow in streams harboring federally protected mussel species, northwestern Florida and southwestern Georgia [abstr.] *Proceedings - Georgia Water Resources Conference, in Proceedings of the 2001 Georgia water resources conference*. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 129-130.

P. N. Albertson. FLORIDA. Comparison of pre- and post-impoundment ground-water levels near the Jim Woodruff Lock and Dam site, Jackson County, Florida [abstr.] *Proceedings - Georgia Water Resources Conference, in Proceedings of the 2001 Georgia water resources conference*. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 127-128.

S. T. Algermissen. Nuevas iniciativas para estudios de mitigación del peligro sísmico en America del Sur—New initiatives for earth-



- quake hazard mitigation studies in South America [abstr.] Earthquake Mitigation Program in the Andean Region (Project SISRA), *in* Simposio sobre el peligro y riesgo sísmico y volcánico en América del Sur—Symposium on Seismic and volcanic hazard and risk in South America. (Alberto Giesecke M., editor). 14, 1985. p. 450-452.
- S. J. Alhadeff, D. V. Alhadeff, T. R. Dyar and J. W. Musser. GEORGIA. Topographic map viewer for Georgia [abstr.] Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.
- S. J. Alhadeff, M. N. Landers, B. E. McCallum and D. V. Alhadeff. GEORGIA. Using the digital surface-water annual data report for Georgia [abstr.] Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2001 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 162-164.
- R. S. Anderson\*, C. D. Allen, A. N. Bair\*, R. B. Jass\* and J. L. Toney\*. COLORADO, NEW MEXICO. Holocene forest fire regimes in the Southern Rocky Mountains and Jemez Mountains of Colorado & New Mexico [abstr.] Congress of the International Union for Quaternary Research, *in* XVI INQUA congress; Shaping the Earth; a Quaternary perspective. 16, 2003. p. 192.
- R. E. Arndt, W. J. Bonner and T. R. Feagan. Monitoring federally owned minerals via Landsat MSS [abstr.] Summaries - International Symposium on Remote Sensing of Environment, *in* Summaries; Nineteenth international symposium on Remote sensing of environment. (J. J. Cook, chairperson). 19, 1985. p. 125.
- C. R. Bacon. ALASKA. Pre-eruptive volatiles in the most recent eruptions of Aniakchak Volcano, Alaska [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1376-1377.
- C. R. Bacon and M. A. Lanphere. Magma differentiation rates and processes at Mount Mazama (Crater Lake), a Cascades arc volcano [abstr.] *Geochimica et Cosmochimica Acta*, *in* Abstracts of the 12th annual V. M. Goldschmidt conference. v. 66, no. 15A, August 2002. p. 42.
- C. R. Bacon, P. K. Weber\*, K. A. Larsen, R. Reisenbichler, I. D. Hutcheon\*, B. L. Ingram\* and J. L. Wooden. Ion microprobe analysis of  $^{87}\text{Sr}/^{86}\text{Sr}$  in  $\text{CaCO}_3$  and application to otoliths [abstr.] *Geochimica et Cosmochimica Acta*, *in* Abstracts of the 12th annual V. M. Goldschmidt conference. v. 66, no. 15A, August 2002. p. 42.
- R. J. Baker, E. F. Vowinkel and Elizabeth Loik. Statistical relations between land-use characteristics and nitrate concentrations in ground water [abstr.] American Water Resources Association Technical Publication Series, *in* AWRA; American Water Resources Association's 2002 annual water resources conference; abstract proceedings. 02-4, 2002. p. 280.
- Paul Barlow, Brian Wagner and Kenneth Belitz\*. CALIFORNIA. Optimal pumping strategies for managing shallow, poor-quality ground water, western San Joaquin Valley, California [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1993 fall meeting. v. 74, no. 43, Suppl. October 26, 1993. p. 234.
- Maurizio Battaglia\*, Carter Roberts and Paul Segall\*. CALIFORNIA. Magma intrusion beneath Long Valley Caldera, California, confirmed by temporal gravity changes [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1322.
- J. L. Betancourt. The Pleistocene-Holocene transition in subtropical North and South America [abstr.] Congress of the International Union for Quaternary Research, *in* XVI INQUA congress; Shaping the Earth; a Quaternary perspective. 16, 2003. p. 190.
- I. N. Bindeman\*, J. W. Valley\*, J. L. Wooden and H. M. Persing. SHRIMP dating of Pleistocene zircons from Yellowstone reveals shallow remelting, zircon recycling [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1361.
- M. H. Bothner, M. Buchholtz ten Brink, P. W. Gill and F. T. Manheim. Reductions in metal concentrations in surface sediments of Boston Harbor; 1977-1996 [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1998 spring meeting. v. 79, no. 17, Suppl. 1998. p. 187.
- R. A. Brightbill, M. D. Bilger, Karen Riva-Murray and J. D. Byrnes. Relation of mercury among fish fillets, water, and sediments [abstr.] American Water Resources Association Technical Publication Series, *in* AWRA; American Water Resources Association's 2002 annual water resources conference; abstract proceedings. 02-4, 2002. p. 283.
- S. B. Brown\*, D. C. Honeyfield, J. D. Fitzsimons\* and D. E. Tillitt. Investigating solutions to the early mortality syndrome [abstr.] Program and Abstracts of the ... Conference of the International Association for Great Lakes Research, *in* IAGLR 2000; Great Lakes, great rivers; "a vision for tomorrow". 43, 2000. p. A.16-A.17.
- R. M. Brunner-Jass\*, R. S. Anderson\* and C. D. Allen. NEW MEXICO. Paleocology from two subalpine bog sites, Jemez Mountains, New Mexico [abstr.] Program and Abstracts - American Quaternary Association. Conference, *in* Landscape and biotic responses to climate variability; future impacts and past lessons. 16, May 2000. p. 52.
- M. Buchholtz ten Brink, W. C. Schwab, B. Butman, M. Allison\*, J. Schlee, E. Mecray, L. Lotto\* and D. Lanier\*. Contaminants in New York Bight sediments; a tracer of modern sediment dynamics and a legacy for the future [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1998 spring meeting. v. 79, no. 17, Suppl. 1998. p. 176.
- D. A. Burns, P. S. Murdoch and G. B. Lawrence. NEW YORK. Effect of ground-water seeps on  $\text{NO}_3^-$  concentrations in stream water in the Catskill Mountains of New York [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1993 fall meeting. v. 74, no. 43, Suppl. October 26, 1993. p. 258.
- W. F. Cannon, G. L. Laberge\*, J. S. Klasner\* and C. Dicken. WISCONSIN. Geology of the western Gogebic Iron Range, Northwest Wisconsin; a record of sedimentation and deformation across the northern margin of the Penokean Orogen [abstr.] Proceedings and Abstracts - Institute on Lake Superior Geology. Meeting, *in* Institute on Lake Superior Geology 48th annual meeting; Part 1, Program and abstracts; proceedings. (K. O'Flaherty, editor and others). 48, Part 1, May 2002. p. 7-8.
- G. B. Carleton, E. W. Best, R. Alvey\*, J. M. Mason\*, M. J. Rosenberg\* and K. Y. Lee\*. Development and innovative use of



- low-cost plastic liners for temporary sealing of open boreholes in a fractured carbonate aquifer [abstr.] American Water Resources Association Technical Publication Series, *in* AWRA; American Water Resources Association's 2002 annual water resources conference; abstract proceedings. 02-4, 2002. p. 270.
- R. L. Carruth and D. R. Pool. ARIZONA. Hydrogeology of the Quitobaquito Spring and La Abra Plain area, Arizona and Sonora, Mexico [abstr.] *Eos, Transactions, American Geophysical Union, in* AGU 1993 fall meeting. v. 74, no. 43, Suppl. October 26, 1993. p. 281-282.
- K. V. Cashman\*, J. P. Kauahikaua and Charlene Montierth\*. Manometry, chronometry, and thermometry of basaltic lava flows [abstr.] Contributions of the Economic Geology Research Unit, *in* Conference abstracts; Long lava flows. (P. W. Whitehead, editor). 56, July 1996. p. 8-9.
- A. T. Chalmers and Roger Fujii. CALIFORNIA. Effects of redox conditions on the distribution and solubility of Se and As in ground water, Tulare Basin, California; II, Redox characterization and As [abstr.] *Eos, Transactions, American Geophysical Union, in* AGU 1993 fall meeting. v. 74, no. 43, Suppl. October 26, 1993. p. 271.
- D. C. Chichester, J. M. Fischer and S. M. Edwards. NEW JERSEY, NEW YORK, PENNSYLVANIA. Comparison of pesticides and pesticide metabolites in ground water from three hydrogeologic settings in the Delaware River basin, New Jersey, New York, and Pennsylvania, 1999-2001 [abstr.] American Water Resources Association Technical Publication Series, *in* AWRA; American Water Resources Association's 2002 annual water resources conference; abstract proceedings. 02-4, 2002. p. 177.
- J. J. H. Ciborowski\*, J. Gerlofsma\*, A. Grgicak\*, L. D. Corkum\*, D. W. Schloesser, K. A. Krieger\* and D. J. Berg\*. Distribution and co-occurrence of dreissenid mussels (*Dreissena* spp.) and burrowing mayflies (*Hexagenia* spp.) in offshore waters of western Lake Erie [abstr.] Program and Abstracts of the ... Conference of the International Association for Great Lakes Research, *in* IAGLR 2000; Great Lakes, great rivers; "a vision for tomorrow". 43, 2000. p. A.23-A.24.
- J. S. Clarke. Georgia coastal sound science initiative; evaluation of ground-water flow, saltwater contamination and alternative water sources [abstr.] Proceedings - Annual David S. Snipes/Clemson Hydrogeology Symposium, *in* Eleventh annual David S. Snipes/Clemson hydrogeology symposium. 11, 2003. p. 4-5.
- J. S. Clarke, J. W. Sorensen\* and George Collins\*. Development of water-table and depth to water maps for the southeastern United States using a geographic information system [abstr.] Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 1989 Georgia water resources conference. (K. J. Hatcher, editor). 1989, 1989. p. 15-16.
- B. L. Cluer\*, M. C. Carpenter, L. J. Martin\*, M. A. Wondzell\*, L. R. Dexter\* and M. F. Manone\*. Rapid erosion and slow redeposition of sand bars along the regulated Colorado River in the Grand Canyon [abstr.] *Eos, Transactions, American Geophysical Union, in* AGU 1993 fall meeting. v. 74, no. 43, Suppl. October 26, 1993. p. 321.
- B. L. Cochran, B. E. McCallum, T. C. Stamey and C. J. Wipperfurth. GEORGIA. Flood tracking chart, Flint River basin, Georgia [abstr.] Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.
- Rachael Craig\*, Leila Shiozawa\*, Marina Timofeyeva\*, Julio Betancourt, Elizabeth Pierson\* and Tony Burgess\*. Paleobiogeography estimated by a local climate model [abstr.] Program and Abstracts - American Quaternary Association. Conference, *in* Landscape and biotic responses to climate variability; future impacts and past lessons. 16, May 2000. p. 55.
- G. L. Curtis, A. Hintz\*, J. Schaeffer and L. C. Mohr\*. Recent proliferation of the round goby (*Neogobius melanostomus*) in Lake Huron; they are not just in shallow water anymore [abstr.] Program and Abstracts of the ... Conference of the International Association for Great Lakes Research, *in* IAGLR 2000; Great Lakes, great rivers; "a vision for tomorrow". 43, 2000. p. A.28.
- A. L. Deino\*, C. S. Gromme and M. G. Best\*. NEVADA. <sup>40</sup>Ar/<sup>39</sup>Ar geochronology, modal mineralogy, and paleomagnetism of the Hiko and Racer Canyon tuffs, Great Basin, Nevada, Utah, USA [abstr.] International Geological Congress, Abstracts = Congrès Géologique International, Résumés, *in* 30th international geological congress; abstracts. 30, Vol. 2, 1996. p. 376.
- Ed DeWitt, C. H. Thorman, E. Ladeira\*, R. E. Zartman, G. P. Landis and J. L. Wooden. Origin and age of gold deposits at Sao Bento and Morro Velho, Brazil [abstr.] International Geological Congress, Abstracts = Congrès Géologique International, Résumés, *in* Brazil 2000; 31st international geological congress; abstracts volume. 31, August 2000 unpaginated.
- W. P. Dillon, U. S. ten Brink, J. Acosta\*, E. Uchupi\*, R. Vegas\*, A. Muñoz\* and M. Taylor\*. Structure in the transition from subduction to transform motion, northeastern Caribbean [abstr.] *Eos, Transactions, American Geophysical Union, in* AGU 1998 spring meeting. v. 79, no. 17, Suppl. 1998. p. 172.
- J. R. Dingler and R. E. Kayen. Integrating wetlands restoration and the disposal of dredged material in the San Francisco Bay estuary [abstr.] *Eos, Transactions, American Geophysical Union, in* AGU 1998 spring meeting. v. 79, no. 17, Suppl. 1998. p. 182.
- T. R. Dyar, S. J. Alhadeff, R. C. Burke, III\*, P. D. Lamarre\* and R. W. Olson\*. GEORGIA. Estimating Chattahoochee River tributary stream temperatures in the vicinity of Atlanta, Georgia [abstr.] Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2001 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 501.
- C. C. Edsall, J. D. Allen, L. M. Ogilvie, M. E. Holey\* and D. C. Honeyfield. Biological monitoring of early life stages of Lake Michigan lake trout (*Salvelinus namaycush*) from 1996-1999 [abstr.] Program and Abstracts of the ... Conference of the International Association for Great Lakes Research, *in* IAGLR 2000; Great Lakes, great rivers; "a vision for tomorrow". 43, 2000. p. A.41.
- L. E. Edwards, D. C. Prowell, R. E. Weems, N. O. Frederiksen, G. S. Gohn and L. M. Bybell. Time slices and thickness patterns in Tertiary strata of the Southern Atlantic Coastal Plain; so much for the layercake paradigm [abstr.] Abstract Volume of the Bald Head Island Conference on Coastal Plains Geology, *in* Abstract volume; The Cape Fear Arch, transition between the North and Southern Atlantic Coastal Plain. 4, 2002. p. 16.



- J. G. Elliott and A. C. Gellis. NEW MEXICO. Recent geomorphic change in the Rio Puerco arroyo of northern New Mexico, U.S.A [abstr.] Congress of the International Union for Quaternary Research, in XVI INQUA congress; shaping the Earth; a Quaternary perspective. 16, 2003. p. 119.
- J. L. Fanning. GEORGIA. Water use and power generation in Georgia [abstr.] Proceedings - Georgia Water Resources Conference, in Proceedings of the 1989 Georgia water resources conference. (K. J. Hatcher, editor). 1989, 1989. p. 13.
- J. L. Fanning. GEORGIA. Public-supply water use in the Metropolitan Atlanta, Georgia area, 1995-2000 [abstr.] Proceedings - Georgia Water Resources Conference, in Proceedings of the 2001 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 782.
- R. B. Finkelman, W. Kalkreuth\* and J. C. Willett. Characterization of Brazilian coals [abstr.] International Geological Congress, Abstracts = Congrès Géologique International, Résumés, in Brazil 2000; 31st international geological congress; abstracts volume. 31, August 2000 unpaginated.
- C. A. Finn, J. Velez\*, M. Pilkington\*, W. Miles\*, I. Hernandez\*, R. Kucks, R. Saltus, V. Bankey and P. Hill. Initial maps from the North American magnetic anomaly database program [abstr.] International Geological Congress, Abstracts = Congrès Géologique International, Résumés, in Brazil 2000; 31st international geological congress; abstracts volume. 31, August 2000 unpaginated.
- T. G. Fisher\*, W. L. Loope, H. M. Jol\* and W. C. Pierce\*. MICHIGAN. Big lake records preserved in a little lake's sediment; an example from Silver Lake, Michigan, USA [abstr.] Congress of the International Union for Quaternary Research, in XVI INQUA congress; Shaping the Earth; a Quaternary perspective. 16, 2003. p. 182.
- G. R. Foulger, B. R. Julian, A. M. Pitt, D. P. Hill, P. E. Malin\* and Eylon Shalev\*. CALIFORNIA. Tomographic evidence for migration of volcanic gas beneath Mammoth Mountain, Long Valley Caldera, California, between 1989 and 1997 [abstr.] Eos, Transactions, American Geophysical Union, in AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1323.
- E. A. Frick, A. K. Henderson\*, D. M. Moll\*, E. T. Furlong and M. T. Meyer. GEORGIA. Presence of pharmaceuticals in wastewater effluent and drinking water, Metropolitan Atlanta, Georgia, July-September 1999 [abstr.] Proceedings - Georgia Water Resources Conference, in Proceedings of the 2001 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 282.
- J. M. Friedman, K. R. Vincent and P. B. Shafroth. Using tree-ring anatomy to date floodplain deposition [abstr.] Congress of the International Union for Quaternary Research, in XVI INQUA congress; shaping the Earth; a Quaternary perspective. 16, 2003. p. 120.
- Roger Fujii and A. T. Chalmers. CALIFORNIA. Effects of redox conditions on the distribution and solubility of Se and As in ground water, Tulare Basin, California; I, Field methods and Se [abstr.] Eos, Transactions, American Geophysical Union, in AGU 1993 fall meeting. v. 74, no. 43, Suppl. October 26, 1993. p. 271.
- Allen Gellis, Milan Pavich and Scott Aby\*. NEW MEXICO. Sediment budgets for two semi-arid watersheds, Rio Puerco basin, New Mexico [abstr.] Congress of the International Union for Quaternary Research, in XVI INQUA congress; shaping the Earth; a Quaternary perspective. 16, 2003. p. 120.
- J. M. G. Glen and P. A. Ponce. Large-scale geologic patterns point to the birth of a hotspot in the Western U.S. [abstr.] Eos, Transactions, American Geophysical Union, in AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1217.
- J. B. Graf, S. M. D. Jansen, J. D. Smith and S. M. Wiele. Characterization of channel geometry of an incised bedrock river for sediment-transport modeling [abstr.] Eos, Transactions, American Geophysical Union, in AGU 1993 fall meeting. v. 74, no. 43, Suppl. October 26, 1993. p. 296.
- L. Granina\* and E. Callender. Potential diffusive fluxes of some elements from Lake Baikal sediments [abstr.] Program and Abstracts of the ... Conference of the International Association for Great Lakes Research, in IAGLR 2000; Great Lakes, great rivers; "a vision for tomorrow". 43, 2000. p. A.52.
- N. G. Grannemann. Ground-water resources of the Great Lakes region [abstr.] Program and Abstracts of the ... Conference of the International Association for Great Lakes Research, in IAGLR 2000; Great Lakes, great rivers; "a vision for tomorrow". 43, 2000. p. A.52.
- Patricia Gregg\*, Deborah Smith\*, Laura Kong\*, Kevin Johnson\*, Jennifer Reynolds\*, Frank Trusdell, Maurice Tivey\*, Wenlu Zhu\*, Mark Bulmer\*, Mike Avgerinos\*, Dennis Geist\*, Terry Naumann\*, Jennifer Mercer\*, Tim Dulaney\* and Eric Bergmanis\*. Lava depocenters at the summit of the submarine Puna Ridge, Kilauea Volcano [abstr.] Eos, Transactions, American Geophysical Union, in AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1351.
- A. E. Grosz and J. N. Grossman. Geochemical mapping in the United States; methods, results, and implications [abstr.] International Geological Congress, Abstracts = Congrès Géologique International, Résumés, in Brazil 2000; 31st international geological congress; abstracts volume. 31, August 2000 unpaginated.
- I. W. Grubbs. FLORIDA. Comparison of ground-water flow to and leakage from a seepage lake with atmospheric exchanges in a karstic region of northwestern Florida, USA [abstr.] Eos, Transactions, American Geophysical Union, in AGU 1993 fall meeting. v. 74, no. 43, Suppl. October 26, 1993. p. 261.
- J. T. Hagstrum. Antipodal hotspot on Earth; are major deep-ocean impacts the cause? [abstr.] LPI Contribution, in Impact cratering; bridging the gap between modeling and observations. (Robert Herrick, convener and others). Report no. 1155, 2003. p. 27.
- K. J. Halford and J. E. Mirecki\*. FLORIDA. Transient expansion of a fresh-water aquifer in a reclaimed salt marsh near Mayport, Florida [abstr.] Eos, Transactions, American Geophysical Union, in AGU 1998 spring meeting. v. 79, no. 17, Suppl. 1998. p. 182.
- J. E. Hammer\*, M. J. Rutherford\* and Wes Hildreth. ALASKA. Pre-eruptive storage conditions for the andesite magma of the 1912 eruption in the VTTS, AK [abstr.] Eos, Transactions, American Geophysical Union, in AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1375.
- M. S. Harris\*, P. T. Gayes\*, E. E. Wright\*, Germán Ojeda\*, M. P. Katuna\*, T. R. Putney\*, Bill Schwab, Robert Morton, Terrence



- Edgar, Wayne Baldwin and Neal Driscoll\*. SOUTH CAROLINA. An overview of the coastal erosion program in South Carolina; integrated coastal plain and continental shelf geologic framework studies on the southern flank of the Cape Fear Arch [abstr.] Abstract Volume of the Bald Head Island Conference on Coastal Plains Geology, *in* Abstract volume; The Cape Fear Arch, transition between the North and Southern Atlantic Coastal Plain. 4, 2002. p. 19-20.
- R. W. Harvey and D. W. Metge. The role of groundwater chemistry in the transport of bacteria to water-supply wells [abstr.] IAHS-AISH Publication, *in* Interdisciplinary perspectives on drinking water risk assessment and management. (E. G. Reichard, editor and others). 260, 2000. p. 49-50.
- R. A. Haugerud, D. J. Harding\*, C. S. Weaver and S. Y. Johnson. WASHINGTON. High-resolution topography for geologic hazards studies, western Washington [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 99th annual meeting. v. 35, no. 4, April 2003. p. 12.
- Brian Hausback\*, Andrea Cook\*, Chris Farrar, Mark Giambastiani\*, Arturo Martin\*, Francisco Paz Moreno\*, Joann Stock\*, Jane Dmochowski\*, Sarah Fowler\*, Keith Sutter\*, Paul Verke\* and Chloe Winant\*. Isla San Luis Volcano, Baja California, Mexico; timing of volcanic activity [abstr.] *Eos*, Transactions, American Geophysical Union, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1359.
- J. R. Hein. Cobalt-rich ferromanganese oxyhydroxide crusts in the global ocean [abstr.] International Geological Congress, Abstracts = Congrès Géologique International, Résumés, *in* Brazil 2000; 31st international geological congress; abstracts volume. 31, August 2000 unpaginated.
- J. R. Hein, Jennifer Dowling and Anthony Schuetze. CALIFORNIA. A natural source of mercury, thallium, arsenic, and silver contamination, California Continental Borderland [abstr.] International Geological Congress, Abstracts = Congrès Géologique International, Résumés, *in* Brazil 2000; 31st international geological congress; abstracts volume. 31, August 2000 unpaginated.
- T. D. Herbert\*, John Barron, Linda Heusser\*, Mitchell Lyle\*, Mix Allan\* and Christina Ravelo\*. Non-synchronous climate change along the western margin of North America during glacial terminations [abstr.] Congress of the International Union for Quaternary Research, *in* XVI INQUA congress; shaping the Earth; a Quaternary perspective. 16, 2003. p. 125.
- D. Hidayat\*, B. A. Chouet, B. Voight\* and P. B. Dawson. Source mechanism of very-long-period signals accompanying dome growth activity at Merapi Volcano, Indonesia [abstr.] *Eos*, Transactions, American Geophysical Union, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1314.
- D. C. Honeyfield, J. D. Fitzsimons\*, S. B. Brown\* and D. E. Tillitt. Dietary alewife and bloater chub's effect on lake trout egg thiamin [abstr.] Program and Abstracts of the ... Conference of the International Association for Great Lakes Research, *in* IAGLR 2000; Great Lakes, great rivers; "a vision for tomorrow". 43, 2000. p. A.63.
- E. H. Hopkins. GEORGIA, ALABAMA. Using a geographic information system to rank urban intensity of small watersheds for the Chattahoochee, Flint, Ocmulgee, and Oconee river basins in the Piedmont ecoregion of Georgia and Alabama [abstr.] Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.
- Steve Hostetler. Simulated mid-Holocene climate for western and central North America [abstr.] Program and Abstracts - American Quaternary Association. Conference, *in* Landscape and biotic responses to climate variability; future impacts and past lessons. 16, May 2000. p. 12.
- A. Iriondo, L. M. Martinez Torres\* and M. J. Kunk. Late Cretaceous-early Tertiary juxtaposition of Paleoproterozoic basement blocks in NW Sonora, Mexico; testing the Mojave-Sonora Megashear hypothesis [abstr.] International Geological Congress, Abstracts = Congrès Géologique International, Résumés, *in* Brazil 2000; 31st international geological congress; abstracts volume. 31, August 2000 unpaginated.
- A. S. Jayko, R. M. Forester, D. S. Kaufman\*, J. Bright\* and J. P. McGeehin. CALIFORNIA. Late Pleistocene lakes and groundwater discharge, Panamint Valley, California [abstr.] Congress of the International Union for Quaternary Research, *in* XVI INQUA congress; Shaping the Earth; a Quaternary perspective. 16, 2003. p. 181.
- C. A. Johnson, M. A. Mast and C. L. Kester. Excess oxygen-17 in snowpack sulfate and its use as a tracer of atmospheric sulfur deposition in the Rocky Mountains [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 364.
- G. H. Johnson\*, David Powars and Scott Bruce\*. VIRGINIA. Stratigraphic and paleontologic complexities in late Cenozoic deposits around the Chesapeake Bay impact structure in eastern Virginia [abstr.] Abstract Volume of the Bald Head Island Conference on Coastal Plains Geology, *in* Abstract volume; The Cape Fear Arch, transition between the North and Southern Atlantic Coastal Plain. 4, 2002. p. 24.
- J. H. Johnson, K. Jock\*, T. Debo\*, J. McDonald\*, J. Snyder\* and S. Schlueter\*. Assessing the potential for restoring Atlantic salmon in St. Lawrence River tributaries [abstr.] Program and Abstracts of the ... Conference of the International Association for Great Lakes Research, *in* IAGLR 2000; Great Lakes, great rivers; "a vision for tomorrow". 43, 2000. p. A.72.
- J. H. Johnson and J. E. McKenna, Jr. Longitudinal distribution of salmonid production in Lake Ontario tributaries [abstr.] Program and Abstracts of the ... Conference of the International Association for Great Lakes Research, *in* IAGLR 2000; Great Lakes, great rivers; "a vision for tomorrow". 43, 2000. p. A.72-A.73.
- J. H. Johnson, R. M. Ross and A. Mathers\*. Diet composition and fish consumption of double-crested cormorants in the eastern basin of Lake Ontario [abstr.] Program and Abstracts of the ... Conference of the International Association for Great Lakes Research, *in* IAGLR 2000; Great Lakes, great rivers; "a vision for tomorrow". 43, 2000. p. A.72.
- T. A. Johnson\*, E. G. Reichard, Michael Land and S. M. Crawford. CALIFORNIA. Monitoring, modeling, and managing seawater intrusion, central and west coastal groundwater basins, Los Angeles County, California [abstr.] International Conference on Salt-



- water intrusion and Coastal Aquifers - Monitoring, Modeling and Management, *in* SWICA-M<sup>3</sup>; the first international conference on Salt water intrusion and coastal aquifers; monitoring, modeling and management. 1, 2001. p. 1-2.
- M. J. S. Johnston, D. P. Hill and A. M. Pitt. CALIFORNIA. Strain transients preceding LP events, local earthquakes and during triggered seismicity from the October 16, 1999, M 7.1 Hector Mine, California, earthquake in the Long Valley Caldera [abstr.] *Eos, Transactions, American Geophysical Union*, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1384.
- B. R. Julian, G. R. Foulger, A. M. Pitt, D. P. Hill, P. E. Malin\* and Eylon Shalev\*. CALIFORNIA. Earthquake mechanisms at Long Valley Caldera, California [abstr.] *Eos, Transactions, American Geophysical Union*, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1384.
- B. G. Katz, L. N. Plummer, E. Busenberg and K. Revesz. FLORIDA. The effect of lakewater leakage on the chemical evolution of shallow ground water, northern Florida [abstr.] *Eos, Transactions, American Geophysical Union*, *in* AGU 1993 fall meeting. v. 74, no. 43, Suppl. October 26, 1993. p. 271-272.
- J. P. Kauahikaua. HAWAII. Observations on basaltic lava stream dynamics in tubes from Kilauea, Hawai'i [abstr.] *Contributions of the Economic Geology Research Unit*, *in* Conference abstracts; Long lava flows. (P. W. Whitehead, editor). 56, July 1996. p. 32-33.
- C. L. Keppenne\*, M. D. Dettinger and Michael Ghil\*. Spatio-temporal analysis of interannual fluctuations in the United States surface-air temperature record [abstr.] *Eos, Transactions, American Geophysical Union*, *in* AGU 1993 fall meeting. v. 74, no. 43, Suppl. October 26, 1993. p. 123.
- L. Keszthelyi and Stephen Self\*. Some thermal and dynamical considerations for the emplacement of long lava flows [abstr.] *Contributions of the Economic Geology Research Unit*, *in* Conference abstracts; Long lava flows. (P. W. Whitehead, editor). 56, July 1996. p. 36-37.
- L. Keszthelyi, Stephen Self\*, J. P. Kauahikaua\* and D. Pieri\*. Dynamics and long examples of inflated pahoehoe lava flows [abstr.] *Contributions of the Economic Geology Research Unit*, *in* Conference abstracts; Long lava flows. (P. W. Whitehead, editor). 56, July 1996. p. 38-39.
- G. H. Ketola. Influence of natural levels of thiamine in water on early mortality in Atlantic salmon fry [abstr.] *Program and Abstracts of the ... Conference of the International Association for Great Lakes Research*, *in* IAGLR 2000; Great Lakes, great rivers; "a vision for tomorrow". 43, 2000. p. A.78.
- G. H. Ketola, J. H. Johnson, C. M. Adams\* and J. F. Farquhar\*. Relationship between diet composition of double-crested cormorants and thiamine and mineral contents in their eggs [abstr.] *Program and Abstracts of the ... Conference of the International Association for Great Lakes Research*, *in* IAGLR 2000; Great Lakes, great rivers; "a vision for tomorrow". 43, 2000. p. A.77-A.78.
- S. L. Krupa\*, J. W. Harvey, C. G. Greenlaw and J. Giddings\*. FLORIDA. Geologic and anthropogenic influences on groundwater-surface water interactions in the northern Florida Everglades [abstr.] *Eos, Transactions, American Geophysical Union*, *in* AGU 1998 spring meeting. v. 79, no. 17, Suppl. 1998. p. 176.
- G. E. Kues. NEW MEXICO. Ground-water levels and direction of ground-water flow in the central part of Bernalillo County, New Mexico, summer 1983 [abstr.] *Proceedings Volume - New Mexico Geological Society Annual Spring Meeting*, *in* 1987 annual NMGS spring meeting. (R. F. Broadhead, chairperson and others). 1987, 1987. p. 21.
- M. N. Landers, K. W. McFadden and J. R. Bramblett\*. GEORGIA. New watershed boundary map for Georgia [abstr.] *Proceedings - Georgia Water Resources Conference*, *in* Proceedings of the 2001 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 681.
- Victoria Langenheim and Robert Jachens. Crustal structure of the Peninsular Ranges Batholith from aeromagnetic data: implications for Gulf of California rifting [abstr.] *Abstracts with Programs - Geological Society of America*, *in* Geological Society of America, Cordilleran Section, 99th annual meeting. v. 35, no. 4, April 2003. p. 9.
- W. H. Langer. Environmental risk analysis and aggregate mining [abstr.] *Forum on the Geology of Industrial Minerals*, *in* 2001 industrial minerals in Canada; program and extended abstracts for the 37th forum on The geology of industrial minerals. (G. J. Simandl, compiler and others). 37, 2001. p. 55.
- M. A. Lanphere, D. E. Champion, Vincenzo Morra\*, Gennaro Ricci\* and Dario Tedesco\*. First-principles calibration of K-Ar dating; the CE 79 eruption of Vesuvius [abstr.] *Eos, Transactions, American Geophysical Union*, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1379.
- S. A. Leake. New computer program for simulating storage changes and transient leakage in confining units using MODFLOW [abstr.] *Eos, Transactions, American Geophysical Union*, *in* AGU 1993 fall meeting. v. 74, no. 43, Suppl. October 26, 1993. p. 306.
- H. C. Li\*, T. L. Lu\* and J. L. Bishoff. CALIFORNIA. High-resolution sediment records of stable isotopes and carbonate mineralogy/abundance in Owens Lake, California; climate and hydrology reconstructions between 45 and 145 ka [abstr.] *Eos, Transactions, American Geophysical Union*, *in* AGU 1998 spring meeting. v. 79, no. 17, Suppl. 1998. p. 179.
- Zhong Lu, Charles Wicks, Daniel Dzurisin, J. A. Power and Wayne Thatcher. Satellite radar interferometry detected surface deformation at a dormant Aleutian volcano [abstr.] *Eos, Transactions, American Geophysical Union*, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1354.
- S. C. Lundstrom, S. A. Mahan, M. R. Hudson and J. B. Paces. Evidence for extreme Pleistocene floods of the lower Colorado River [abstr.] *Program and Abstracts - American Quaternary Association. Conference*, *in* Landscape and biotic responses to climate variability; future impacts and past lessons. 16, May 2000. p. 81.
- C. L. Luukkonen and T. E. Croley, II. MICHIGAN. Impacts of climate change on ground water levels, Lansing, Michigan [abstr.] *Program and Abstracts of the ... Conference of the International Association for Great Lakes Research*, *in* IAGLR 2000; Great Lakes, great rivers; "a vision for tomorrow". 43, 2000. p. A.96-A.97.
- D. D. MacDonald\*, J. L. Crane\*, C. Severn\*, C. G. Ingersoll, T. Berger\*, R. Lindskoog\* and D. Smorong\*. Development and evaluation of numerical sediment quality objectives for the St.



- Louis River area of concern [abstr.] Program and Abstracts of the ... Conference of the International Association for Great Lakes Research, *in* IAGLR 2000; Great Lakes, great rivers; "a vision for tomorrow". 43, 2000. p. A.97.
- L. B. Magoon. The petroleum system; an investigation technique to evaluate the complementary prospect; short course 1 [abstr.], *in* Proceedings of the conference on Petroleum systems of SE Asia and Australasia. (J. V. C. Howes, editor and others). Jakarta: Indonesian Petroleum Association, 1997. p. 1021-1022.
- David Mallinson\*, S. R. Riggs\*, E. R. Thieler, S. J. Culver\*, C. W. Hoffman\* and J. F. Wehmiller\*. Neogene seismic stratigraphic framework of the Albemarle Embayment [abstr.] Abstract Volume of the Bald Head Island Conference on Coastal Plains Geology, *in* Abstract volume; The Cape Fear Arch, transition between the North and Southern Atlantic Coastal Plain. 4, 2002. p. 29.
- Margaret Mangan, Frank Trusdell, Thomas Miller and Christopher Waythomas. Events and geochemistry of the initial caldera-forming eruption at Emmons Lake volcanic complex [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1353.
- Dörte Mann\*, J. T. Freymueller\* and Zhong Lu. The pre-, co-, and post-eruptive sequence of the 1997 Okmok eruption from deformation observations [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1376.
- R. L. Marella. Water use in the Apalachicola-Chattahoochee-Flint rivers basin, 1985 [abstr.] Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 1991 Georgia water resources conference. (K. J. Hatcher, editor). 1991, 1991. p. 9.
- R. G. McGimsey, C. A. Neal and C. M. Riley\*. ALASKA. Isomass maps of the tephra fall deposits from the 1992 eruptions of Crater Peak Vent, Mount Spurr Volcano, Alaska [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1312.
- J. E. McKenna, Jr. Aquatic community production of a restored wetland in the Montezuma National Wildlife Refuge [abstr.] Program and Abstracts of the ... Conference of the International Association for Great Lakes Research, *in* IAGLR 2000; Great Lakes, great rivers; "a vision for tomorrow". 43, 2000. p. A.105-A.106.
- J. E. McKenna, Jr. and J. H. Johnson. NEW YORK. Stream fish assemblages and habitat associations in the vicinity of the Salmon River, New York [abstr.] Program and Abstracts of the ... Conference of the International Association for Great Lakes Research, *in* IAGLR 2000; Great Lakes, great rivers; "a vision for tomorrow". 43, 2000. p. A.106.
- W. S. McPherson. MARYLAND. Groundwater and drought; tracking the hidden resource in Maryland [abstr.] American Water Resources Association Technical Publication Series, *in* AWRA; American Water Resources Association's 2002 annual water resources conference; abstract proceedings. 02-4, 2002. p. 21.
- K. B. McSwain and N. L. Barber. GEORGIA. Ground-water monitoring and effects of the 1998-2000 drought on ground-water levels in Georgia [abstr.] Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2001 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 61.
- Roger Melick. Web-enabled GIS; aggregate applications [abstr.] Forum on the Geology of Industrial Minerals, *in* 2001 industrial minerals in Canada; program and extended abstracts for the 37th forum on The geology of industrial minerals. (G. J. Simandl, compiler and others). 37, 2001. p. 71.
- S. A. Mensing\*, Larry Benson, Michael Kashgarian\* and Steve Lund\*. NEVADA. A Holocene record of vegetation and climate change from Pyramid Lake, Nevada [abstr.] Congress of the International Union for Quaternary Research, *in* XVI INQUA congress; Shaping the Earth; a Quaternary perspective. 16, 2003. p. 182.
- E. A. Merman\*, P. R. Betzer\* and E. A. Shinn. Coral and atmospheric dust; a new perspective for Krakatau [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1999 fall meeting. v. 80, no. 46, November 16, 1999. p. 184-185.
- M. S. Miller, M. L. Anderson\*, R. C. Jachens and C. M. Wentworth. CALIFORNIA. 3-D geophysical model of the upper crust at the proposed San Andreas Fault Observatory at Depth (SAFOD) site near Parkfield, CA [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1217.
- T. P. Miller, C. F. Waythomas, M. T. Mangan and F. A. Trusdell. ALASKA. Physical volcanology of large late-Quaternary caldera-forming eruptions at the Emmons Lake volcanic center, Alaska Peninsula [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1353.
- S. A. Minor and M. R. Hudson. NEW MEXICO. Hydrogeologic characterization of fault zones in the northern Albuquerque Basin, New Mexico [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 364.
- P. C. Molzer and U. S. ten Brink. Three dimensional stratigraphic modelling of glaciated continental shelves [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1998 spring meeting. v. 79, no. 17, Suppl. 1998. p. 179.
- J. G. Moore. HAWAII. Density of basalt from Hilo drill hole, Hawaii [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1350.
- S. C. Moran. ALASKA. Volcano-tectonic earthquakes at Katmai National Park, Alaska; evidence for more than one source process [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1375.
- D. R. Muhs. Evidence of middle and late Holocene drought from eolian records of Midcontinental North America [abstr.] Program and Abstracts - American Quaternary Association. Conference, *in* Landscape and biotic responses to climate variability; future impacts and past lessons. 16, May 2000. p. 29-33.
- D. R. Muhs, J. P. McGeehin, Josh Been and Eric Fisher. ALASKA. Holocene loess sedimentation and soil formation in the Matanuska Valley, Southern Alaska; a modern analog to past dust deposition [abstr.] Congress of the International Union for Quaternary Research, *in* XVI INQUA congress; Shaping the Earth; a Quaternary perspective. 16, 2003. p. 187.



- J. W. Musser, T. R. Dyar and S. J. Alhadeff. Floodplain mapping in Georgia using Digital Orthophoto Quarter Quadrangle base maps [abstr.] Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.
- C. W. Naeser, N. D. Naeser, R. E. Weems and L. E. Edwards. Provenance studies in the coastal plain; what fission-track ages of detrital zircons can tell us about the source of sediments [abstr.] Abstract Volume of the Bald Head Island Conference on Coastal Plains Geology, *in* Abstract volume; The Cape Fear Arch, transition between the North and Southern Atlantic Coastal Plain. 4, 2002. p. 34-35.
- D. L. Naftz, L. D. Cecil and P. F. Schuster. Ice-core records of climate change from a South American and south-central North American site provide evidence of global linkage [abstr.] International Geological Congress, Abstracts = Congrès Géologique International, Résumés, *in* Brazil 2000; 31st international geological congress; abstracts volume. 31, August 2000 unpaginated.
- Sam Nelson\*, Robert Donohue\* and N. E. Peters. Nutrient flux from Ellen Brook to the Swan Estuary [abstr.], *in* The Swan Canning Estuary conference; "The Swan Canning Estuary; science, modelling and management". York, West. Aust.: Faversham House, 1998. p. 3.
- W. L. Newell, D. C. Prowell, David Krantz, David Powars, Robert Mixon, R. E. Weems, Byron Stone and Deb Willard (compilers). Surficial geology and geomorphology of the Atlantic Coastal Plain [abstr.] Abstract Volume of the Bald Head Island Conference on Coastal Plains Geology, *in* Abstract volume; The Cape Fear Arch, transition between the North and Southern Atlantic Coastal Plain. 4, 2002. p. 36.
- M. J. Pavich, P. R. Bierman\*, A. C. Gellis and J. M. Reuter\*. NEW MEXICO. Rates and scales of sediment production in the Rio Puerco basin, New Mexico [abstr.] Congress of the International Union for Quaternary Research, *in* XVI INQUA congress; shaping the Earth; a Quaternary perspective. 16, 2003. p. 119.
- D. F. Payne, A. M. Provost and C. I. Voss. GEORGIA, SOUTH CAROLINA, FLORIDA. Parallel development of MODFLOW and SUTRA models in coastal Georgia, South Carolina, and Florida; an approach to study regional ground-water flow and local saltwater intrusion [abstr.] Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.
- W. J. Perry, G. L. Dixon and W. R. Page. NEVADA. Age and nature of thrust faulting southwest and east of Pogues Station along the southeastern margin of Little Smoky Valley, east-central Nevada [abstr.], *in* Mississippian source rocks in the Antler Basin of Nevada and associated structural and stratigraphic traps; Eureka, Elko, Nye and White Pine counties, Nevada. (M. W. Hansen, editor and others). Reno, NV: Nevada Petroleum Society, July 1995. p. 75-76.
- N. E. Peters and Robert Donohue\*. Controls on land-based nutrient sources and transport [abstr.], *in* The Swan Canning Estuary conference; "The Swan Canning Estuary; science, modelling and management". York, West. Aust.: Faversham House, 1998. p. 1.
- N. E. Peters and Wlodimierz Tych\*. GEORGIA. Relations between a multivariate ENSO index and atmospheric deposition near Atlanta, Georgia, 1986-2002 [abstr.] NADP Proceedings: NADP Scientific Symposium and Technical Committee Meeting, *in* NADP 2002; NADP scientific symposium and technical committee meeting. (Richard Grant, chairperson). Report no. 2002-01, September 2002. p. 59.
- J. S. Pigati\*, Marek Zreda\*, P. F. Almasi\*, Warren Sharp\*, David Elmore\* and E. W. Wolfe. HAWAII. No more ice in paradise; ages of Pleistocene glaciations on Mauna Kea, Hawai'i [abstr.] Congress of the International Union for Quaternary Research, *in* XVI INQUA congress; Shaping the Earth; a Quaternary perspective. 16, 2003. p. 189.
- J. B. Plescia. Application of gravity data to understanding impact mechanics [abstr.] LPI Contribution, *in* Impact cratering; bridging the gap between modeling and observations. (Robert Herrick, convener and others). Report no. 1155, 2003. p. 60.
- F. G. Poole. NEVADA, UTAH. Thermal maturation and distribution of petroleum source rocks in Mississippian Antler foreland basin of eastern Nevada and western Utah [abstr.], *in* Mississippian source rocks in the Antler Basin of Nevada and associated structural and stratigraphic traps; Eureka, Elko, Nye and White Pine counties, Nevada. (M. W. Hansen, editor and others). Reno, NV: Nevada Petroleum Society, July 1995. p. 145-146.
- F. G. Poole, Ricardo Amaya Martinez\* and A. G. Harris\*. Early Mississippian North American carbonate-shelf margin in west-central Sonora, Mexico [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 99th annual meeting. v. 35, no. 4, April 2003. p. 14.
- F. G. Poole, A. J. Boucot\*, Ricardo Amaya Martinez\*, C. A. Sandberg, A. G. Harris\* and W. R. Page\*. Early Devonian brachiopods in west-central Sonora indicate depositional continuity along southern margin of Laurentia [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 99th annual meeting. v. 35, no. 4, April 2003. p. 13-14.
- R. Z. Poore, R. L. Phillips, W. B. Curry\* and L. E. Osterman\*. Late Pleistocene and Holocene paleoceanographic record from the western Arctic Ocean [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1998 spring meeting. v. 79, no. 17, Suppl. 1998. p. 177.
- S. G. Prejean\*, W. L. Ellsworth, Felix Waldhauser\* and M. D. Zoback\*. CALIFORNIA. Earthquake relocations and stress inversions in the Long Valley Caldera, California [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1323.
- L. C. Price. Geological and geochemical consequences of basin exhumation, and commercial implications [abstr.] Geological Society Special Publications, *in* Exhumation of the North Atlantic margin; timing, mechanisms and implications for petroleum exploration. (A. G. Doré, editor and others). 196, 2002. p. 431.
- Alden Provost and Clifford Voss. The evolution of lava fabrics; numerical simulations of sequential flow emplacement [abstr.] Contributions of the Economic Geology Research Unit, *in* Conference abstracts; Long lava flows. (P. W. Whitehead, editor). 56, July 1996. p. 58-59.
- A. Ramelli\*, J. Bell\*, S. Caskey\*, C. Depolo\*, L. Guerrieri\* and J. Yount. Belt-like behavior of surface-rupturing earthquakes in the





- western Basin and Range Province, USA [abstr.] International Geological Congress, Abstracts = Congrès Géologique International, Résumés, *in* Brazil 2000; 31st international geological congress; abstracts volume. 31, August 2000 unpaginated.
- M. M. Reddy and G. R. Aiken. FLORIDA. Fulvic acid-sulfide ion competition for mercury ion binding in the Florida Everglades [abstr.] Program and Abstracts of the ... Conference of the International Association for Great Lakes Research, *in* IAGLR 2000; Great Lakes, great rivers; "a vision for tomorrow". 43, 2000. p. A.127-A.128.
- M. C. Reheis, G. E. Kurth\*, Joanna Redwine\*, F. M. Phillips\* and J. B. Paces. Timing of pluvial lake-filling events in the western Great Basin [abstr.] Congress of the International Union for Quaternary Research, *in* XVI INQUA congress; Shaping the Earth; a Quaternary perspective. 16, 2003. p. 181.
- Marith Reheis, Scott Stine\* and Andrei Sarna-Wojcicki. CALIFORNIA. Quaternary overflows of pluvial Lake Russell, eastern California [abstr.] Program and Abstracts - American Quaternary Association. Conference, *in* Landscape and biotic responses to climate variability; future impacts and past lessons. 16, May 2000. p. 94.
- E. G. Reichard, S. M. Crawford, M. T. Land and K. S. Paybins. CALIFORNIA. Management of groundwater supply and water quality in the Los Angeles Basin, California [abstr.] IAHS-AISH Publication, *in* Interdisciplinary perspectives on drinking water risk assessment and management. (E. G. Reichard, editor and others). 260, 2000. p. 91-92.
- J. A. Reid and W. R. Normark. Widespread sediment deposition in NE Pacific Ocean from catastrophic floods of latest Pleistocene age, Northwest US [abstr.] Congress of the International Union for Quaternary Research, *in* XVI INQUA congress; shaping the Earth; a Quaternary perspective. 16, 2003. p. 125.
- Richard Reynolds, Marith Reheis, Gary Clow, Rich Tigges, Todd Hinkley, Dan Muhs, Randy Schumann, Paul Lamothe, Greg Meeker, Pat Chavez, Dave MacKinnon, Miguel Velasco, Stuart Sides, Deborah Soltesz, Jayne Belnap, Sue Phillips, Nick Lancaster\* and Robert Fulton\*. Eolian processes and deposits in the Southwestern U.S.; past, present, and future response to climatic variability and land use [abstr.] Program and Abstracts - American Quaternary Association. Conference, *in* Landscape and biotic responses to climate variability; future impacts and past lessons. 16, May 2000. p. 96-97.
- S. R. Riggs\*, D. A. Mallinson\*, E. R. Thieler, J. F. Wehmiller\*, S. J. Culver\* and C. W. Hoffman\*. NORTH CAROLINA. Quaternary enigma of North Carolina [abstr.] Abstract Volume of the Bald Head Island Conference on Coastal Plains Geology, *in* Abstract volume; The Cape Fear Arch, transition between the North and Southern Atlantic Coastal Plain. 4, 2002. p. 39.
- J. D. Rogie\*, D. M. Kerrick\*, M. L. Sorey and Giovanni Chiodini\*. CALIFORNIA. Measurement and analysis of diffuse degassing of magmatic CO<sub>2</sub> at Mammoth Mountain, California [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1323.
- Tanya Romanyuk\*, Walter Mooney and Richard Blakely. Constraints on Cascadia subduction from contrasting models of crustal and mantle densities [abstr.] International Union of Geodesy and Geophysics General Assembly = Union Géodésique et Géophysique Internationale Comptes Rendus de la ...Assemblée Générale, *in* IUGG99; abstracts. 99, week B, 1999. p. 114.
- Erik Ronald. ALASKA. Bald Ridge Project in Annette Island, Alaska [abstr.] Forum on the Geology of Industrial Minerals, *in* 2001 industrial minerals in Canada; program and extended abstracts for the 37th forum on The geology of industrial minerals. (G. J. Simandl, compiler and others). 37, 2001. p. 215.
- L. A. Sacks and T. D. Bullen. FLORIDA. Use of <sup>87</sup>Sr/<sup>86</sup>Sr to delineate the source of high-sulfate ground water near the Florida Coast [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1993 fall meeting. v. 74, no. 43, Suppl. October 26, 1993. p. 269.
- A. H. Sallenger, John Brock, Hilary Stockdon, Kurt Hanson, William Krabill\*, Robert Swift\* and David Eslinger\*. Large-scale coastal behavior during the 1997-98 El Nino [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1999 fall meeting. v. 80, no. 46, November 16, 1999. p. 548.
- R. W. Saltus, P. J. Haeussler and J. P. Doucette. Anchorage Urban Region Aeromagnetism (AURA); preliminary geophysical results [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1218.
- B. P. Sargent and C. P. Frederick. LOUISIANA. Using a geographic information system to determine the Chicot Aquifer system surficial confining unit's thickness and location of sand lenses, southwestern Louisiana [abstr.] Transactions - Gulf Coast Association of Geological Societies, *in* Forty-ninth annual convention of the Gulf Coast Association of Geological Societies, American Association of Petroleum Geologists regional meeting and the Forty-sixth annual convention of the Gulf Coast Section SEPM. (W. C. Terrell, editor and others). 49, 1999. p. 5.
- Stephen Self\*, T. Thordarson\* and L. Keszthelyi. Inflation features as keys to the emplacement of pahoehoe lava flow fields in the Columbia River Basalt Group [abstr.] Contributions of the Economic Geology Research Unit, *in* Conference abstracts; Long lava flows. (P. W. Whitehead, editor). 56, July 1996. p. 72-73.
- J. M. Self-Trail, D. C. Prowell, R. A. Christopher\* and R. E. Weems\*. Stratigraphic correlation of Turonian through Santonian sediments from three cores across the Cape Fear Arch [abstr.] Abstract Volume of the Bald Head Island Conference on Coastal Plains Geology, *in* Abstract volume; The Cape Fear Arch, transition between the North and Southern Atlantic Coastal Plain. 4, 2002. p. 42.
- A. M. Silva\*, A. E. McCafferty and A. C. B. Pires\*. Predictive geophysical models for the Rio das Velhas greenstone-hosted mineralization, Brazil [abstr.] International Geological Congress, Abstracts = Congrès Géologique International, Résumés, *in* Brazil 2000; 31st international geological congress; abstracts volume. 31, August 2000 unpaginated.
- M. Simons\*, Y. Fialko\*, L. Rivera\*, E. Chapin\*, S. Hensley\*, P. A. Rosen\*, S. Shaffer\*, F. H. Webb\* and J. Langbein. Analysis of geodetic measurements of crustal deformation at Long Valley Caldera [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1322.

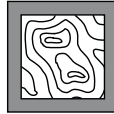


- D. B. Smith, N. Gustavsson\* and B. Bolviken\*. Geochemical maps based on ultra-low-density sampling of the conterminous United States [abstr.] International Geological Congress, Abstracts = Congrès Géologique International, Résumés, *in* Brazil 2000; 31st international geological congress; abstracts volume. 31, August 2000 unpaginated.
- S. B. Smith, C. L. Rice\*, S. Datta\*, L. J. Begnoche, R. T. Quintal, J. Hickey, D. P. Reader and J. E. Gannon. Potential impacts of alkylphenols and ethoxylates to endocrine biomarkers in fish from selected sites in the Great Lakes [abstr.] Program and Abstracts of the ... Conference of the International Association for Great Lakes Research, *in* IAGLR 2000; Great Lakes, great rivers; "a vision for tomorrow". 43, 2000. p. A.147.
- T. J. Smith, III, S. Cleaves, K. Whelan and G. Anderson. FLORIDA. Spatial and temporal patterns of sediment porewater conductivity variation across a mangrove forest; sawgrass ecotone in the Everglades of South Florida [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1998 spring meeting. v. 79, no. 17, Suppl. 1998. p. 182.
- M. A. Stapanian, M. T. Bur, J. T. Tyson, T. W. Seamans and B. F. Blackwell. Foraging locations of double-crested cormorants (*Phalacrocorax auritus*) and associations with fish densities in the western basin of Lake Erie [abstr.] Program and Abstracts of the ... Conference of the International Association for Great Lakes Research, *in* IAGLR 2000; Great Lakes, great rivers; "a vision for tomorrow". 43, 2000. p. A.149-A.150.
- J. H. Stewart. Mojave-Sonora megashear; evidence from Neoproterozoic to Lower Jurassic strata [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, Cordilleran Section, 99th annual meeting. v. 35, no. 4, April 2003. p. 13.
- Frederick Stumm and Shafiqul Chowdhury\*. NEW YORK. Hydrogeologic interpretation of geophysical logs from a fractured-rock borehole in Queens County, New York [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 362.
- Christopher Swarzenski. LOUISIANA. The Gulf intracoastal waterway as a distributary of freshwater and sediments to marshes in coastal Louisiana [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1998 spring meeting. v. 79, no. 17, Suppl. 1998. p. 181.
- M. J. Sweat, B. B. Brogren and P. M. Erickson. MICHIGAN. The Michigan Source Water Assessment Program; surface water supplies [abstr.] Program and Abstracts of the ... Conference of the International Association for Great Lakes Research, *in* IAGLR 2000; Great Lakes, great rivers; "a vision for tomorrow". 43, 2000. p. A.154.
- Wayne Thatcher. CALIFORNIA. Role of static stress transfer in earthquake-magmatic interactions at Long Valley Caldera, eastern California, 1978-2000 [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1384-1385.
- R. A. Thompson, C. M. Johnson\*, C. J. Fridrich, R. J. Fleck and L. A. Wright\*. CALIFORNIA. Timing of extension-related volcanism in central Death Valley, California and implications for mantle heterogeneity [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1361.
- R. S. Thompson, K. H. Anderson\* and L. E. Strickland. Paleoenvironmental changes in western North America during the Pleistocene-Holocene transition [abstr.] Congress of the International Union for Quaternary Research, *in* XVI INQUA congress; Shaping the Earth; a Quaternary perspective. 16, 2003. p. 190.
- J. J. Thordsen, R. H. Mariner, Y. K. Kharaka and L. D. White. Stable isotopes of meteoric waters and snow in the greater Yellowstone National Park region [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 357.
- M. J. Turner and A. R. Schmidt. Application of a transport model to verify a one-dimensional, unsteady-flow model [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1993 fall meeting. v. 74, no. 43, Suppl. October 26, 1993. p. 268.
- R. L. Virta. Kaolin [abstr.] Mining Engineering. v. 53, no. 6, June 2001. p. 42.
- K. L. Wallace\* and C. F. Waythomas. ALASKA. Further investigation of geologic setting and characterization of a large volcanic debris avalanche deposit in the Copper River basin, Alaska [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1353.
- C. B. Walls and M. D. Hamrick. GEORGIA. Delineating karst features underlying Lake Seminole, southwestern Georgia, using historical aerial photographs [abstr.] Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.
- Debbie Warner and Virgil Norton\*. GEORGIA. An overview of water-resource issues in the middle and lower Flint River subbasins, Southwest Georgia [abstr.] Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2003 Georgia water resources conference. (K. J. Hatcher, editor). 2003, 2003.
- C. F. Waythomas, T. P. Miller, M. T. Mangan, F. A. Trusdell and K. Wallace\*. ALASKA. Fire and ice on the Alaska Peninsula stratigraphic records of pyroclastic eruptions and glaciation, Emmons Lake Caldera and vicinity, Southwestern Alaska [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1352-1353.
- R. E. Weems. Group and supergroup stratigraphy of the Atlantic Coastal Plain [abstr.] Abstract Volume of the Bald Head Island Conference on Coastal Plains Geology, *in* Abstract volume; The Cape Fear Arch, transition between the North and Southern Atlantic Coastal Plain. 4, 2002. p. 45.
- A. H. Welch, Zoltan Szabo, D. L. Parkhurst, P. C. Van Metre and A. H. Mullin. A limitation of gross-beta activity in studies of naturally occurring beta-emitting radionuclides in ground water [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1993 fall meeting. v. 74, no. 43, Suppl. October 26, 1993. p. 298-299.
- Cathy Whitlock\*, Patrick Bartlein\*, Andrea Brunelle\*, S. L. Shafer, Jennifer Marlon\*, Colin Long\* and Christy Briles\*. Climate, fire, and vegetation linkages in the temperate forests of the Western U.S. during the Holocene [abstr.] Congress of the International



- Union for Quaternary Research, *in* XVI INQUA congress; Shaping the Earth; a Quaternary perspective. 16, 2003. p. 191-192.
- L. J. Williams. GEORGIA. Geology and yield of productive crystalline bedrock wells in the vicinity of Lawrenceville, Georgia [abstr.] Proceedings - Annual David S. Snipes/Clemson Hydrogeology Symposium, *in* Eleventh annual David S. Snipes/Clemson hydrogeology symposium. 11, 2003. p. 32-33.
- L. J. Williams and Marcel Belaval. GEORGIA. Use of two-dimensional direct-current-resistivity profiling to detect fracture zones in a crystalline rock aquifer near Lawrenceville, Georgia [abstr.] Proceedings - Georgia Water Resources Conference, *in* Proceedings of the 2001 Georgia water resources conference. (K. J. Hatcher, editor). (U. S. Geological Survey). 2001, 2001. p. 772-773.
- Laurie Wirt. Use of  $^{234}\text{U}/^{238}\text{U}$  as an environmental tracer of uranium-mining contamination in ground water [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 1993 fall meeting. v. 74, no. 43, Suppl. October 26, 1993. p. 298.
- M. Wolgamood\*, S. V. Marcquenski\*, S. B. Brown\*, J. D. Fitzsimons\*, D. E. Tillitt and D. C. Honeyfield. Observed changes in early mortality syndrome in Lake Michigan Coho and Chinook salmon from 1994-1999 [abstr.] Program and Abstracts of the ... Conference of the International Association for Great Lakes Research, *in* IAGLR 2000; Great Lakes, great rivers; "a vision for tomorrow". 43, 2000. p. A.169.
- W. W. Wood and W. E. Sanford. Halite and sulfate precipitation in modern coastal sabkhas; importance for geologic interpretation [abstr.] Abstracts with Programs - Geological Society of America, *in* Geological Society of America, 2000 annual meeting. v. 32, no. 7, 2000. p. 364.
- L. G. Woodruff, W. F. Cannon and C. Dicken. MINNESOTA. Impact of fire on the forest floor and mineral soils, Snowbank Lake, Minnesota [abstr.] Proceedings and Abstracts - Institute on Lake Superior Geology. Meeting, *in* Institute on Lake Superior Geology 48th annual meeting; Part 1, Program and abstracts; proceedings. (K. O'Flaherty, editor and others). 48, Part 1, May 2002. p. 54-55.
- B. M. Wrege. NORTH CAROLINA. Paleochannel delineation in the coastal plain of North Carolina [abstr.] Abstract Volume of the Bald Head Island Conference on Coastal Plains Geology, *in* Abstract volume; The Cape Fear Arch, transition between the North and Southern Atlantic Coastal Plain. 4, 2002. p. 48.
- T. L. Wright and F. W. Klein. HAWAII. Deep magma transport at Kilauea Volcano, Hawaii [abstr.] Eos, Transactions, American Geophysical Union, *in* AGU 2000 fall meeting. v. 81, no. 48, Suppl. November 28, 2000. p. 1350.
- K. K. Yates and L. L. Robbins. Microbially-induced calcification; patterns, processes, and implications for inorganic carbon cycling [abstr.] International Geological Congress, Abstracts = Congrès Géologique International, Résumés, *in* Brazil 2000; 31st international geological congress; abstracts volume. 31, August 2000 unpaginated.
- J. L. Zajicek, D. E. Tillitt, G. Wright\*, J. D. Fitzsimons\*, S. B. Brown\*, D. C. Honeyfield and M. E. Holey\*. Thiaminolytic activity in forage fish of Great Lakes salmonids, 1998-99 [abstr.] Program and Abstracts of the ... Conference of the International Association for Great Lakes Research, *in* IAGLR 2000; Great Lakes, great rivers; "a vision for tomorrow". 43, 2000. p. A.172.





## TOPOGRAPHIC MAPS

The table below shows new and revised topographic maps printed by the USGS from October through December 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

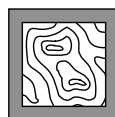
map type for 1:24,000-scale map revisions will always be a contour (topographic) edition. The 1:100,000-scale map type will be either Surface Management or Minerals Management.

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
38363	TAL0451	HOLLYWOOD, AL	1:24,000	01/01/1980	-860000 - -855230	343730 - 344500	AL	Contours
39401	TAR0071	BERLIN, AR LA	1:24,000	01/01/2002	-915230 - -914500	330000 - 330730	AR LA	Contours
39522	TAR0192	CROSSETT SOUTH, AR LA	1:24,000	01/01/2002	-920000 - -915230	330000 - 330730	AR LA	Contours
40251	TAR0921	WILMOT SW, AR LA	1:24,000	01/01/2002	-914500 - -913730	330000 - 330730	AR LA	Contours
40548	TAZ0099	BASSETT PEAK, AZ	1:24,000	01/01/1996	-1102230 - -1101500	323000 - 323730	AZ	Contours
40647	TAZ0198	BUEHMAN CANYON, AZ	1:24,000	01/01/1996	-1103730 - -1103000	322230 - 323000	AZ	Contours
41634	TAZ1191	REDINGTON, AZ	1:24,000	01/01/1996	-1103000 - -1102230	322230 - 323000	AZ	Contours
41794	TAZ1353	SOZA CANYON, AZ	1:24,000	01/01/1996	-1103000 - -1102230	321500 - 322230	AZ	Contours
43262	TCA0028	ALLEGHANY, CA	1:24,000	01/01/2000	-1205230 - -1204500	392230 - 393000	CA	Contours
43406	TCA0179	BISHOP, CA	1:100,000	01/01/2003	-1190000 - -1180000	370000 - 373000	CA	Surface Management
43406	TCA0179	BISHOP, CA	1:100,000	01/01/2003	-1190000 - -1180000	370000 - 373000	CA	Surface Management
43440	TCA0216	BOCA, CA NV	1:24,000	01/01/2000	-1200730 - -1200000	392230 - 393000	CA NV	Contours
46002	TCA2827	BRIDGEPORT, CA	1:100,000	01/01/2003	-1200000 - -1190000	380000 - 383000	CA NV	Surface Management
43893	TCA0675	DOWNIEVILLE, CA	1:24,000	01/01/2000	-1205230 - -1204500	393000 - 393730	CA	Contours
44133	TCA0920	GOODYEARS BAR, CA	1:24,000	01/01/2000	-1210000 - -1205230	393000 - 393730	CA	Contours
44153	TCA0940	GREEK STORE, CA	1:24,000	01/01/2000	-1203730 - -1203000	390000 - 390730	CA	Contours
44219	TCA1007	HAYPRESS VALLEY, CA	1:24,000	01/01/2000	-1203730 - -1203000	393000 - 393730	CA	Contours
45995	TCA2813	MENDOTA, CA	1:100,000	01/01/2003	-1210000 - -1200000	363000 - 370000	CA	Surface Management
45995	TCA2813	MENDOTA, CA	1:100,000	01/01/2003	-1210000 - -1200000	363000 - 370000	CA	Surface Management
46302	TCA3132	MERCED, CA	1:100,000	01/01/2003	-1210000 - -1200000	370000 - 373000	CA	Surface Management
46302	TCA3132	MERCED, CA	1:100,000	01/01/2003	-1210000 - -1200000	370000 - 373000	CA	Surface Management
44713	TCA1511	MICHIGAN BLUFF, CA	1:24,000	01/01/2000	-1204500 - -1203730	390000 - 390730	CA	Contours
44821	TCA1619	MT FILLMORE, CA	1:24,000	01/01/2000	-1205230 - -1204500	393730 - 394500	CA	Contours



46400	TCA3232	SANTA ANA, CA	1:100,000	01/01/2003	-1180000 - -1170000	333000 - 340000	CA	Surface Management
46400	TCA3232	SANTA ANA, CA	1:100,000	01/01/2003	-1180000 - -1170000	333000 - 340000	CA	Surface Management
49692	TCO2208	CANON CITY, CO	1:100,000	01/01/2003	-1060000 - -1050000	380000 - 383000	CO	Surface Management
49693	TCO2209	CANON CITY, CO	1:100,000	01/01/2003	-1060000 - -1050000	380000 - 383000	CO	Minerals Management
49707	TCO2224	CORTEZ, CO	1:100,000	01/01/2003	-1090000 - -1080000	370000 - 373000	CO	Surface Management
49708	TCO2225	CORTEZ, CO	1:100,000	01/01/2003	-1090000 - -1080000	370000 - 373000	CO	Minerals Management
49791	TCO2312	DURANGO, CO	1:100,000	01/01/2003	-1080000 - -1070000	370000 - 373000	CO	Surface Management
49792	TCO2313	DURANGO, CO	1:100,000	01/01/2003	-1080000 - -1070000	370000 - 373000	CO	Minerals Management
49789	TCO2310	ESTES PARK, CO	1:100,000	01/01/2003	-1060000 - -1050000	400000 - 403000	CO	Surface Management
49790	TCO2311	ESTES PARK, CO	1:100,000	01/01/2003	-1060000 - -1050000	400000 - 403000	CO	Minerals Management
49789	TCO2310	ESTES PARK, CO	1:100,000	01/01/2003	-1060000 - -1050000	400000 - 403000	CO	Surface Management
49790	TCO2311	ESTES PARK, CO	1:100,000	01/01/2003	-1060000 - -1050000	400000 - 403000	CO	Minerals Management
48611	TCO1120	LAST CHANCE, CO	1:100,000	01/01/2003	-1040000 - -1030000	393000 - 400000	CO	Minerals Management
48612	TCO1122	LAST CHANCE, CO	1:100,000	01/01/2003	-1040000 - -1030000	393000 - 400000	CO	Surface Management
48611	TCO1120	LAST CHANCE, CO	1:100,000	01/01/2003	-1040000 - -1030000	393000 - 400000	CO	Minerals Management
48612	TCO1122	LAST CHANCE, CO	1:100,000	01/01/2003	-1040000 - -1030000	393000 - 400000	CO	Surface Management
49302	TCO1814	STERLING, CO	1:100,000	01/01/2003	-1040000 - -1030000	403000 - 410000	CO	Minerals Management
49303	TCO1815	STERLING, CO	1:100,000	01/01/2003	-1040000 - -1030000	403000 - 410000	CO	Surface Management
49302	TCO1814	STERLING, CO	1:100,000	01/01/2003	-1040000 - -1030000	403000 - 410000	CO	Minerals Management
49303	TCO1815	STERLING, CO	1:100,000	01/01/2003	-1040000 - -1030000	403000 - 410000	CO	Surface Management
50759	TFL0673	MARIETTA, FL	1:24,000	01/01/1994	-815230 - -814500	301500 - 302230	FL	Contours
112191	USFS0007	CLEARWATER NATIONAL FOREST, ID	1:126,720	01/01/2003	-1170000 - -1142230	460730 - 470730	ID	No Contours
115753	-	CLEARWATER NATIONAL FOREST, ID	1:126,720	01/01/2003	-1170000 - -1142230	460730 - 470730	ID	No Contours
73984	TMT3028	DE BORGIA SOUTH, MT ID	1:24,000	01/01/1999	-1152230 - -1151500	471500 - 472230	ID MT	Contours
74052	TMT3107	HAUGAN, MT ID	1:24,000	01/01/1999	-1153000 - -1152230	472230 - 473000	ID MT	Contours
74065	TMT3120	ILLINOIS PEAK, MT ID	1:24,000	01/01/1999	-1150730 - -1150000	470000 - 470730	ID MT	Contours

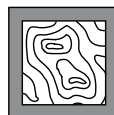


50 U.S. Geological Survey

55075	TID0927	MOUNTAIN HOME, ID	1:100,000	01/01/2003	-1160000 - -1150000	430000 - 433000	ID	Surface Management
56055	TID1933	PALISADES, ID	1:100,000	01/01/1986	-1120000 - -1110000	430000 - 433000	ID	Contours
74175	TMT3248	SALTESE, MT ID	1:24,000	01/01/1999	-1153730 - -1153000	472230 - 473000	ID MT	Contours
74214	TMT3292	THOMPSON PASS, MT ID	1:24,000	01/01/1999	-1154500 - -1153730	473000 - 473730	ID MT	Contours
74217	TMT3297	TORINO PEAK, MT	1:24,000	01/01/1999	-1151500 - -1150730	470730 - 471500	ID MT	Contours
55629	TID1501	WHITE CLOUD PEAKS, ID	1:100,000	01/01/2003	-1150000 - -1140000	440000 - 443000	ID	Surface Management
58154	TIN0595	UNIONVILLE, IN	1:24,000	01/01/1998	-863000 - -862230	390730 - 391500	IN	Contours
109015	TWV0280	NAUGATUCK, WV KY	1:24,000	01/01/1997	-822230 - -821500	374500 - 375230	KY WV	Contours
61554	TLA0104	BURRWOOD BAYOU EAST, LA	1:24,000	01/01/1998	-892230 - -891500	285230 - 290000	LA	Water Contours
61555	TLA0105	BURRWOOD BAYOU WEST, LA	1:24,000	01/01/1998	-893000 - -892230	285230 - 290000	LA	Water Contours
61648	TLA0199	EAST BAY JUNOP, LA	1:24,000	01/01/1998	-910730 - -910000	290730 - 291500	LA	Water Contours
61955	TLA0506	MOUND, LA MS	1:24,000	01/01/1998	-910730 - -910000	321500 - 322230	LA MS	Contours
61984	TLA0536	OAKDALE, LA	1:24,000	01/01/1998	-924500 - -923730	304500 - 305230	LA	Contours
62086	TLA0638	SOUTH PASS, LA	1:24,000	01/01/1998	-891500 - -890730	290000 - 290730	LA	Water Contours
68651	TMO0208	CHEROKEE PASS, MO	1:24,000	01/01/2000	-902230 - -901500	372230 - 373000	MO	Contours
68679	TMO0236	COFFMAN, MO	1:24,000	01/01/2002	-901500 - -900730	374500 - 375230	MO	Contours
68736	TMO0295	DES ARC NE, MO	1:24,000	01/01/2000	-903730 - -903000	372230 - 373000	MO	Contours
68850	TMO0409	FULTON, MO	1:24,000	01/01/2000	-920000 - -915230	384500 - 385230	MO	Contours
68873	TMO0432	GLOVER, MO	1:24,000	01/01/2000	-904500 - -903730	372230 - 373000	MO	Contours
68910	TMO0469	GUTHRIE, MO	1:24,000	01/01/2000	-920730 - -920000	384500 - 385230	MO	Contours
68935	TMO0495	HARTSBURG, MO	1:24,000	01/01/2000	-922230 - -921500	383730 - 384500	MO	Contours
68958	TMO0519	HIGDON, MO	1:24,000	01/01/2000	-901500 - -900730	373000 - 373730	MO	Contours
68987	TMO0548	HURRICANE, MO	1:24,000	01/01/2000	-900730 - -900000	372230 - 373000	MO	Contours
68997	TMO0558	IRON MOUNTAIN LAKE, MO	1:24,000	01/01/2000	-903730 - -903000	373730 - 374500	MO	Contours
69001	TMO0562	IRONTON, MO	1:24,000	01/01/2000	-904500 - -903730	373000 - 373730	MO	Contours
69012	TMO0573	JEFFERSON CITY NW, MO	1:24,000	01/01/2000	-921500 - -920730	383730 - 384500	MO	Contours
69062	TMO0623	LAKE KILLARNEY, MO	1:24,000	01/01/2000	-903730 - -903000	373000 - 373730	MO	Contours
69148	TMO0711	MARQUAND, MO	1:24,000	01/01/2000	-901500 - -900730	372230 - 373000	MO	Contours
69189	TMO0752	MILLERSBURG NE, MO	1:24,000	01/01/2000	-920730 - -920000	385230 - 390000	MO	Contours
69190	TMO0753	MILLERSBURG SW, MO	1:24,000	01/01/2000	-921500 - -920730	384500 - 385230	MO	Contours
69188	TMO0751	MILLERSBURG, MO	1:24,000	01/01/2000	-921500 - -920730	385230 - 390000	MO	Contours
69196	TMO0759	MINNITH, MO	1:24,000	01/01/2000	-900730 - -900000	374500 - 375230	MO	Contours
69206	TMO0769	MOKANE WEST, MO	1:24,000	01/01/2000	-920000 - -915230	383730 - 384500	MO	Contours
69248	TMO0814	NEW BLOOMFIELD, MO	1:24,000	01/01/2000	-920730 - -920000	383730 - 384500	MO	Contours



69313	TMO0881	PARKER LAKE, MO	1:24,000	01/01/2000	-900730 - -900000	373730 - 374500	MO	Contours
69319	TMO0887	PATTON, MO	1:24,000	01/01/2000	-900730 - -900000	373000 - 373730	MO	Contours
69402	TMO0971	RHODES MOUNTAIN, MO	1:24,000	01/01/2000	-903000 - -902230	373000 - 373730	MO	Contours
69417	TMO0986	ROCK PILE MOUNTAIN, MO	1:24,000	01/01/2000	-903000 - -902230	372230 - 373000	MO	Contours
69671	TMO1243	WOMACK, MO	1:24,000	01/01/2000	-901500 - -900730	373730 - 374500	MO	Contours
70750	TMS0721	MCLAIN, MS	1:24,000	01/01/2000	-885230 - -884500	310000 - 310730	MS	Contours
70654	TMS0623	VICKSBURG WEST, MS LA	1:24,000	01/01/1998	-910000 - -905230	321500 - 322230	MS LA	Contours
73747	TMT2777	ALBERTON, MT	1:24,000	01/01/1999	-1143000 - -1142230	470000 - 470730	MT	Contours
73937	TMT2972	BELKNAP, MT	1:24,000	01/01/1999	-1153000 - -1152230	473730 - 474500	MT	Contours
71206	TMT0175	BIG HOLE PEAK, MT	1:24,000	01/01/1999	-1150730 - -1150000	473000 - 473730	MT	Contours
71269	TMT0238	BLUE MOUNTAIN, MT	1:24,000	01/01/1999	-1141500 - -1140730	464500 - 465230	MT	Contours
71279	TMT0248	BONNER, MT	1:24,000	01/01/1999	-1135230 - -1134500	464500 - 465230	MT	Contours
71384	TMT0355	CAMP CREEK, MT	1:24,000	01/01/1999	-1142230 - -1141500	464500 - 465230	MT	Contours
73561	TMT2588	CIRCLE, MT	1:100,000	01/01/2003	-1060000 - -1050000	470000 - 473000	MT	Surface Management
73562	TMT2589	CIRCLE, MT	1:100,000	01/01/2003	-1060000 - -1050000	470000 - 473000	MT	Minerals Management
73561	TMT2588	CIRCLE, MT	1:100,000	01/01/2003	-1060000 - -1050000	470000 - 473000	MT	Surface Management
73562	TMT2589	CIRCLE, MT	1:100,000	01/01/2003	-1060000 - -1050000	470000 - 473000	MT	Minerals Management
73971	TMT3011	CLEVELAND MOUNTAIN, MT	1:24,000	01/01/1999	-1135230 - -1134500	463000 - 463730	MT	Contours
71477	TMT0448	CLINTON, MT	1:24,000	01/01/1999	-1134500 - -1133730	464500 - 465230	MT	Contours
73982	TMT3026	DAVIS POINT, MT	1:24,000	01/01/1999	-1140000 - -1135230	463730 - 464500	MT	Contours
73983	TMT3027	DE BORGIA NORTH, MT	1:24,000	01/01/1999	-1152230 - -1151500	472230 - 473000	MT	Contours
71620	TMT0592	DEER PEAK, MT	1:24,000	01/01/1999	-1143730 - -1143000	465230 - 470000	MT	Contours
111516	USFS0012	DEERLODGE FOREST AREA- BEAVERHEAD NF, MT	1:126,720	01/01/2003	-1130000 - -1120000	454500 - 461500	MT	No Contours
71636	TMT0608	DIAMOND POINT, MT	1:24,000	01/01/1999	-1142230 - -1141500	465230 - 470000	MT	Contours
71638	TMT0610	DICK CREEK, MT ID	1:24,000	01/01/1999	-1142230 - -1141500	463730 - 464500	MT	Contours
73996	TMT3041	DRIVEWAY PEAK, MT	1:24,000	01/01/1999	-1153730 - -1153000	473000 - 473730	MT	Contours
71694	TMT0668	EDDY MOUNTAIN, MT	1:24,000	01/01/1999	-1151500 - -1150730	473000 - 473730	MT	Contours
73742	TMT2772	EVARO, MT	1:24,000	01/01/1999	-1140730 - -1140000	470000 - 470730	MT	Contours
71864	TMT0846	GARDEN POINT, MT	1:24,000	01/01/1999	-1143000 - -1142230	464500 - 465230	MT	Contours
115676	-	GALLATIN NATIONAL FOREST EAST HALF, MT	1:126,720	01/01/2003	-1110730 - -1093730	445230 - 462230	MT WY	No Contours
111518	USFS0014	GALLATIN NATIONAL FOREST EAST HALF, MT	1:126,720	01/01/2003	-1110730 - -1093730	445230 - 462230	MT WY	No Contours
111519	USFS0015	GALLATIN NATIONAL FOREST WEST HALF, MT	1:126,720	01/01/2003	-1114500 - -1103730	443730 - 460730	MT WY	No Contours
115678	-	GALLATIN NATIONAL FOREST WEST HALF, MT	1:126,720	01/01/2003	-1114500 - -1103730	443730 - 460730	MT WY	No Contours
71949	TMT0936	GREENOUGH, MT	1:24,000	01/01/1999	-1133000 - -1132230	465230 - 470000	MT	Contours
74066	TMT3122	IRIS POINT, MT	1:24,000	01/01/1999	-1134500 - -1133730	463730 - 464500	MT	Contours



52 U.S. Geological Survey

112908	-	LEWIS AND CLARK NF JEFFERSON DIVISION, MT	1:126,720	01/01/2003	-112230 - -1090730	461500 - 473000	MT	No Contours
112909	-	LEWIS AND CLARK NF JEFFERSON DIVISION, MT	1:126,720	01/01/2003	-112230 - -1090730	461500 - 473000	MT	No Contours
72350	TMT1344	LOLO HOT SPRINGS, MT ID	1:24,000	01/01/1999	-1143730 - -1143000	463730 - 464500	MT ID	Contours
73829	TMT2861	LOZEAU, MT	1:24,000	01/01/1999	-1145230 - -1144500	470000 - 470730	MT	Contours
72378	TMT1372	LUPINE CREEK, MT	1:24,000	01/01/1999	-1143730 - -1143000	464500 - 465230	MT	Contours
73743	TMT2773	MCCORMICK PEAK, MT	1:24,000	01/01/1999	-1143000 - -1142230	470730 - 471500	MT	Contours
74107	TMT3170	MCGEE PEAK, MT ID	1:24,000	01/01/1999	-1153000 - -1152230	471500 - 472230	MT ID	Contours
72650	TMT1648	OVANDO MOUNTAIN, MT	1:24,000	01/01/1999	-1130730 - -1130000	470000 - 470730	MT	Contours
73733	TMT2763	PARADISE, MT	1:24,000	01/01/1999	-1145230 - -1144500	472230 - 473000	MT	Contours
72688	TMT1686	PETTY MOUNTAIN, MT	1:24,000	01/01/1999	-1143000 - -1142230	465230 - 470000	MT	Contours
72757	TMT1757	POTOMAC, MT	1:24,000	01/01/1999	-1133730 - -1133000	465230 - 470000	MT	Contours
72777	TMT1777	PRISCILLA PEAK, MT	1:24,000	01/01/1999	-1151500 - -1150730	473730 - 474500	MT	Contours
72787	TMT1788	QUIGG PEAK, MT	1:24,000	01/01/1999	-1134500 - -1133730	462230 - 463000	MT	Contours
74165	TMT3235	RAVENNA, MT	1:24,000	01/01/1999	-1133730 - -1133000	463730 - 464500	MT	Contours
72936	TMT1939	SAWMILL SADDLE, MT	1:24,000	01/01/1999	-1135230 - -1134500	462230 - 463000	MT	Contours
73831	TMT2863	SCHLEY MOUNTAIN, MT ID	1:24,000	01/01/1999	-1145230 - -1144500	464500 - 465230	MT ID	Contours
72989	TMT1993	SHRODER CREEK, MT	1:24,000	01/01/1999	-1150000 - -1145230	475230 - 480000	MT	Contours
73047	TMT2051	SOUTHEAST MISSOULA, MT	1:24,000	01/01/1999	-1140000 - -1135230	464500 - 465230	MT	Contours
73049	TMT2053	SOUTHWEST MISSOULA, MT	1:24,000	01/01/1999	-1140730 - -1140000	464500 - 465230	MT	Contours
73833	TMT2865	ST PATRICK PEAK, MT	1:24,000	01/01/1999	-1145230 - -1144500	465230 - 470000	MT	Contours
73594	TMT2622	STARK SOUTH, MT	1:24,000	01/01/1999	-1143730 - -1143000	470000 - 470730	MT	Contours
73131	TMT2135	SUNFLOWER MOUNTAIN, MT	1:24,000	01/01/1999	-1134500 - -1133730	465230 - 470000	MT	Contours
73595	TMT2623	TARKIO, MT	1:24,000	01/01/1999	-1144500 - -1143730	470000 - 470730	MT	Contours
73162	TMT2167	TERRY, MT	1:100,000	01/01/2002	-1060000 - -1050000	463000 - 470000	MT	Minerals Management
73163	TMT2168	TERRY, MT	1:100,000	01/01/2002	-1060000 - -1050000	463000 - 470000	MT	Surface Management
73162	TMT2167	TERRY, MT	1:100,000	01/01/2002	-1060000 - -1050000	463000 - 470000	MT	Minerals Management
73163	TMT2168	TERRY, MT	1:100,000	01/01/2002	-1060000 - -1050000	463000 - 470000	MT	Surface Management
73310	TMT2320	WEST FORK BUTTE, MT ID	1:24,000	01/01/1999	-1143000 - -1142230	463730 - 464500	MT ID	Contours
73329	TMT2339	WHITE MOUNTAIN, MT	1:24,000	01/01/1999	-1144500 - -1143730	464500 - 465230	MT	Contours
73364	TMT2376	WILLIAMS PEAK, MT	1:24,000	01/01/1999	-1144500 - -1143730	465230 - 470000	MT	Contours
73377	TMT2392	WINNETT, MT	1:100,000	01/01/2003	-1090000 - -1080000	470000 - 473000	MT	Surface Management
73377	TMT2392	WINNETT, MT	1:100,000	01/01/2003	-1090000 - -1080000	470000 - 473000	MT	Surface Management
74604	TNC0192	DYSARTSVILLE, NC	1:24,000	01/01/2002	-815230 - -814500	353000 - 353730	NC	Contours





74687	TNC0276	GLENWOOD, NC	1:24,000	01/01/2002	-820000 - -815230	353000 - 353730	NC	Contours
74921	TNC0513	NEW LAKE NW, NC	1:24,000	01/01/2002	-763000 - -762230	353730 - 354500	NC	Contours
79644	TNM0278	CANADA, NM	1:24,000	01/01/2002	-1063000 - -1062230	353730 - 354500	NM	Contours
80332	TNM0977	LA VENTANA, NM	1:24,000	01/01/2002	-1070000 - -1065230	354500 - 355230	NM	Contours
81362	TNM2016	LAGUNA GURULE, NM	1:24,000	01/01/2002	-1070000 - -1065230	361500 - 362230	NM	Contours
80407	TNM1052	LOMA CRESTON, NM	1:24,000	01/01/2002	-1063730 - -1063000	353000 - 353730	NM	Contours
81358	TNM2012	LOS INDIOS CANYON, NM	1:24,000	01/01/2002	-1070000 - -1065230	363000 - 363730	NM	Contours
80509	TNM1156	MESA PORTALES, NM	1:24,000	01/01/2002	-1070730 - -1070000	355230 - 360000	NM	Contours
80559	TNM1206	MONTOSO PEAK, NM	1:24,000	01/01/2002	-1061500 - -1060730	353730 - 354500	NM	Contours
80567	TNM1214	MORA, NM	1:24,000	01/01/2002	-1052230 - -1051500	355230 - 360000	NM	Contours
80630	TNM1277	NORTH SAN YSIDRO, NM	1:24,000	01/01/2002	-1053730 - -1053000	352230 - 353000	NM	Contours
80750	TNM1399	POLVADERA PEAK, NM	1:24,000	01/01/2002	-1063000 - -1062230	360000 - 360730	NM	Contours
81359	TNM2013	POUNDS MESA, NM	1:24,000	01/01/2002	-1065230 - -1064500	363000 - 363730	NM	Contours
80833	TNM1483	REGINA, NM	1:24,000	01/01/2002	-1070000 - -1065230	360730 - 361500	NM	Contours
80867	TNM1517	ROWE, NM	1:24,000	01/01/2002	-1054500 - -1053730	352230 - 353000	NM	Contours
81729	TNM2394	SAN JOSE, NM	1:24,000	01/01/2002	-1053000 - -1052230	352230 - 353000	NM	Contours
80915	TNM1565	SAN JUAN PUEBLO, NM	1:24,000	01/01/2002	-1060730 - -1060000	360000 - 360730	NM	Contours
80949	TNM1599	SANTO DOMINGO PUEBLO, NM	1:24,000	01/01/2002	-1062230 - -1061500	353000 - 353730	NM	Contours
80954	TNM1604	SAPELLO, NM	1:24,000	01/01/2002	-1052230 - -1051500	354500 - 355230	NM	Contours
81740	TNM2405	TECOLOTE, NM	1:24,000	01/01/2002	-1052230 - -1051500	352230 - 353000	NM	Contours
81108	TNM1761	TESUQUE, NM	1:24,000	01/01/2002	-1060000 - -1055230	354500 - 355230	NM	Contours
81109	TNM1762	TETILLA PEAK, NM	1:24,000	01/01/2002	-1061500 - -1060730	353000 - 353730	NM	Contours
81231	TNM1885	VALLE SAN ANTONIO, NM	1:24,000	01/01/2002	-1063730 - -1063000	355230 - 360000	NM	Contours
115406	-	MOUNT MORIAH WILDERNESS HUMBOLDT NF, NV	1:75,000	01/01/2003	-1142230 - -1140000	390000 - 393000	NV	Contours
84123	TNV2297	SALT WATER SPRING, NV	1:24,000	01/01/1999	-1184500 - -1183730	410000 - 410730	NV	Contours
83240	TNV1386	WELLS, NV	1:100,000	01/01/2003	-1150000 - -1140000	410000 - 413000	NV UT	Surface Management
83240	TNV1386	WELLS, NV	1:100,000	01/01/2003	-1150000 - -1140000	410000 - 413000	NV UT	Surface Management
91894	TRI0015	HOPE VALLEY, RI	1:24,000	01/01/2001	-714500 - -713730	413000 - 413730	RI	Contours
91909	TRI0030	SLOCUM, RI	1:24,000	01/01/2001	-713730 - -713000	413000 - 413730	RI	Contours
103698	TUT2187	EGYPT, UT	1:24,000	01/01/1997	-1111500 - -1110730	373000 - 373730	UT	Contours
105392	TWA0143	BUCKLEY, WA	1:24,000	01/01/1997	-1220730 - -1220000	470730 - 471500	WA	Contours
105592	TWA0343	ENUMCLAW, WA	1:24,000	01/01/1997	-1220000 - -1215230	470730 - 471500	WA	Contours
105621	TWA0372	FORT LEWIS, WA	1:24,000	01/01/1997	-1223730 - -1223000	470000 - 470730	WA	Contours
105630	TWA0381	FREDERICKSON, WA	1:24,000	01/01/1997	-1222230 - -1221500	470000 - 470730	WA	Contours
105641	TWA0392	GIG HARBOR, WA	1:24,000	01/01/1997	-1223730 - -1223000	471500 - 472230	WA	Contours
105790	TWA0541	LAKE JOY, WA	1:24,000	01/01/1986	-1215230 - -1214500	473730 - 474500	WA	Contours
105891	TWA0642	MCNEIL ISLAND, WA	1:24,000	01/01/1997	-1224500 - -1223730	470730 - 471500	WA	Contours



54 U.S. Geological Survey

106004	TWA0755	NISQUALLY, WA	1:24,000	01/01/1997	-1224500 - -1223730	470000 - 470730	WA	Contours
106112	TWA0864	POVERTY BAY, WA	1:24,000	01/01/1997	-1222230 - -1221500	471500 - 472230	WA	Contours
106271	TWA1023	SPANAWAY, WA	1:24,000	01/01/1997	-1223000 - -1222230	470000 - 470730	WA	Contours
106332	TWA1084	SUQUAMISH, WA	1:24,000	01/01/1997	-1223730 - -1223000	473730 - 474500	WA	Contours
106389	TWA1141	TUMWATER, WA	1:24,000	01/01/1997	-1230000 - -1225230	470000 - 470730	WA	Contours
106397	TWA1149	TWISP, WA	1:100,000	01/01/2003	-1210000 - -1200000	480000 - 483000	WA	Minerals Management
106398	TWA1150	TWISP, WA	1:100,000	01/01/2003	-1210000 - -1200000	480000 - 483000	WA	Surface Management
106430	TWA1182	WALLA WALLA, WA OR	1:24,000	01/01/1998	-1182230 - -1181500	460000 - 460730	WA OR	Contours
111624	USFS0238	WENATCHEE NATIONAL FOREST WASHINGTON, WA	1:126,720	01/01/1996			WA	
108889	TWV0152	GILBERT, WV	1:24,000	01/01/1996	-815230 - -814500	373000 - 373730	WV	Contours
111457	TWY2084	BAGGS, WY	1:100,000	01/01/1991	-1080000 - -1070000	410000 - 413000	WY	Surface Management
111078	TWY1698	PINEDALE, WY	1:100,000	01/01/1990	-1100000 - -1090000	423000 - 430000	WY	Minerals Management
110888	TWY1505	THE RAMSHORN, WY	1:100,000	01/01/2003	-1100000 - -1090000	433000 - 440000	WY	Minerals Management
110889	TWY1506	THE RAMSHORN, WY	1:100,000	01/01/2003	-1100000 - -1090000	433000 - 440000	WY	Surface Management
110888	TWY1505	THE RAMSHORN, WY	1:100,000	01/01/2003	-1100000 - -1090000	433000 - 440000	WY	Minerals Management
110889	TWY1506	THE RAMSHORN, WY	1:100,000	01/01/2003	-1100000 - -1090000	433000 - 440000	WY	Surface Management
111670	USFS0521	THUNDER BASIN NATIONAL GRASSLAND, WY	1:126,720	01/01/2003			WY	
115264	-	BYRD NEVE SATELLITE IMAGE, ATA	1:100,000	01/01/2003	1510000 - 1564000	-805500 - -801500		Satellite Image
115263	-	CHURCHILL MOUNTAINS, ANTARCTICA	1:250,000	01/01/2003	1510000 - 1650000	-823000 - -801500		Satellite Image
114587	-	GEOGRAPHIC FACE OF THE NATION ELEVATION	1:4,000,000	01/01/2002				No Contours
112625	-	HELENA NATIONAL FOREST MONTANA 2001	1:63,360	01/01/2001	-1125230 - -1105230	460730 - 470000		No Contours
115265	-	NICHOLSON PENINSULA SATELLITE IMAGE, ATA	1:100,000	01/01/2003	1570000 - 1620000	-810000 - -801500		Satellite Image
101514	TUS5680	PRINCIPAL AQUIFERS OF THE US, US	1:5,000,000	01/01/2003	-1250000 - -650000	250000 - 700000		No Contours





# 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](http://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
					<b>Subtotal</b>	
					<b>Subtotal</b> (from reverse)	
					<b>Handling Charge</b> (per order mailed)	<b>5.00</b>
					<b>Total Order Cost</b>	





# 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		

<b>Subtotal</b>	
<b>Subtotal</b> (from reverse)	
<b>Handling Charge</b> (per order mailed)	5.00 <input type="checkbox"/>
<b>Total Order Cost</b>	





# 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](http://earthexplorer.usgs.gov).

For information or ordering assistance, call 1-888-ASK-USGS.

Map Name and Scale	Price (per sheet)
<b>Primary Series Topographic Quadrangle Maps</b>	<b>\$6.00</b>
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)	
<b>Topographic, Image, and Related Maps</b>	<b>\$7.00</b>
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"	

Map Name and Scale	Price (per sheet)
<b>Topographic, Image, and Related Maps</b>	<b>\$7.00</b>
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)	
<b>Thematic Maps</b>	<b>\$7.00</b>
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 <b>\$7.00</b> ; two or more sheets, maximum of <b>\$14.00</b> ; Legends and pamphlets are <b>free</b> .	
<b>Earthquake Maps</b> (Refer to the Earthquake Maps price list for the most recent prices and products.)	<b>Varies</b>
<b>National Imagery and Mapping Agency (NIMA) Topographic Maps, Publications and Digital Products</b> (Refer to the NIMA price list for the most recent prices and products.)	<b>Varies</b>
<b>Historical Maps</b>	<b>\$12.00</b>
<b>USGS Map-on-Demand Printing</b> (Rarely requested maps.)	<b>\$20.00</b>
<b>National Forest Service Maps</b>	
<b>Paper</b>	<b>\$ 7.50</b>
<b>Plastic</b>	<b>\$ 9.00</b>



# ORDER FORM



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	

**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](mailto: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](mailto:info@ntis.fedworld.gov) or by phone at 1-888-584-8332 or  
 (703)605-6050.

**METHOD OF PAYMENT** (please print or type)

VISA     MasterCard     American Express     Discover

CREDIT CARD NUMBER	EXPIRATION DATE
CARDHOLDER'S NAME	

NTIS Deposit Account Number:

Check / Money Order enclosed for \$ \_\_\_\_\_ (PAYABLE TO NTIS IN U.S. DOLLARS)

**PRODUCT SELECTION** (please print or type)

NTIS PRODUCT NUMBER	INTERNAL CUSTOMER ROUTING (OPTIONAL) UP TO 8 CHARACTERS	UNIT PRICE	QUANTITY					INTERNATIONAL AIRMAIL FEES (SEE BELOW)	TOTAL PRICE	
			PAPER COPY	MICRO-FICHE	MAGNETIC TAPE *	DISKETTE	CD-ROM			OTHER
		\$							\$	\$
		\$							\$	\$
		\$							\$	\$
		\$							\$	\$
		\$							\$	\$
		\$							\$	\$
		\$							\$	\$
		\$							\$	\$
* CIRCLE REQUIREMENTS		3480 CARTRIDGE	1600 BPI	6250 BPI	LABELING		FORMAT		TOTAL	\$
					STANDARD	NONLABELED	EBCDIC	ASCII	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.

TOTAL	\$
HANDLING FEE PER TOTAL ORDER	\$ 5.00
Outside North America-\$10.00	\$
GRAND TOTAL	\$

*Thank you for your order!*







## 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/](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.