

U. S. DEPARTMENT OF THE INTERIOR
U. S. GEOLOGICAL SURVEY

Publications of the Volcano Hazards Program 1997

by

Manuel Nathenson¹

OPEN-FILE REPORT 98-618

This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards or with the North American Stratigraphic Code. Any use of trade, product or firm names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

¹U.S. Geological Survey, 345 Middlefield Road MS 910, Menlo Park, California 94025

1998

The Volcano Hazards Program of the U.S. Geological Survey (USGS) is part of the Geologic Hazards Assessments subactivity as funded by Congressional appropriation. Investigations are carried out in the Geologic and Water Resources Divisions of the USGS and with cooperators at the Alaska Division of Geological and Geophysical Surveys, University of Alaska Fairbanks Geophysical Institute, University of Utah, and University of Washington Geophysics Program. This report lists publications from all these institutions.

This report contains only published papers and maps; numerous abstracts produced for presentations at scientific meetings have not been included. Publications are included based on date of publication with no attempt to assign them to Fiscal Year.

Volcano Hazards Bibliography 1997

- Adami, L. H., Hildreth, Wes, and Donnelly-Nolan, J. M., 1996(1997), Oxygen isotope analyses of 166 rock samples from Medicine Lake Volcano, California: U.S. Geological Survey Open-File Report 96-541, 10 p.
- Arnet, Felix, Kahle, Hans-Gert, Klingel , Emile, Smith, R. B., Meertens, C. M., and Dzurisin, Dan, 1997, Temporal gravity and height changes of the Yellowstone caldera, 1977-1994: *Geophysical Research Letters*, v. 24, p. 2741-2744.
- Bacon, C. R., Bruggman, P. E., Christiansen, R. L., Clynne, M. A., Donnelly-Nolan, J. M., and Hildreth, Wes, 1997, Primitive magmas at five Cascade volcanic fields: Melts from hot, heterogeneous sub-arc mantle, *in* Nixon, G. T., Johnston, A. D, and Martin, R. F., eds., *Nature and Origin of Primitive Magmas at Subduction Zones*, *Canadian Mineralogist*, v. 35, p. 397-423.
- Bacon, C. R., Mastin, L. G., Scott, K. M., and Nathenson, Manuel, 1997, Volcano and earthquake hazards in the Crater Lake region, Oregon: U.S. Geological Survey Open-File Report 97-487, 32 p., 1 plate, scale 1:100,000.
- Banks, N. G., Calvache, M. L., and Williams, S. N., 1997, ¹⁴C ages and activity for the past 50 ka at Volc n Galeras, Columbia: *Journal of Volcanology and Geothermal Research*, v. 77, p. 39-55.
- Bargar, K. E., and Keith, T. E. C., 1997, Estimated temperatures for geothermal drill holes at Medicine Lake Volcano, northeastern California, based on fluid inclusion and hydrothermal mineralogy studies: U.S. Geological Survey Open-File Report 97-716, 116 p., one VHS video tape.
- Bargar, K. E., and Oscarson, R. L., 1997, Zeolites in the Cascade Range of northern Oregon: *Oregon Geology*, v. 59, p. 107-122.
- Bargar, K. E., and Oscarson, R. L., 1997, Zeolites and selected other hydrothermal minerals in the Cascade Mountains of northern Oregon: U.S. Geological Survey Open-File Report 97-100, 64 p.
- Barton, C. A., Hickman, Stephen, Morin, Roger, Zoback, M. D., Finkbeiner, Thomas, Sass, John, and Benoit, Dick, 1997, Fracture permeability and its relationship to in-situ stress in the Dixie Valley, Nevada, geothermal reservoir: *Proceedings, Twenty-second Workshop on Geothermal Reservoir Engineering*, Stanford University, Stanford, California, p.147-152.
- Benoit, J. P., and McNutt, S. R., 1997, New constraints on source processes of volcanic tremor at Arenal Volcano, Costa Rica, using broadband seismic data: *Geophysical Research Letters*, v. 24, p. 449-452.
- Blakely, R. J., Christiansen, R. L., Guffanti, Marianne, Wells, R. E., Donnelly-Nolan, J. M., Muffler, L. J. P., Clynne, M. A., and Smith, J. G., 1997, Gravity anomalies, Quaternary vents, and Quaternary faults in the southern Cascade Range, Oregon and California: implications for arc and backarc evolution: *Journal of Geophysical Research*, v. 102, p. 22,513-22,527.
- Borg, L. E., Clynne, M. A., and Bullen, T. D., 1997, The variable role of slab-derived fluids in the generation of a suite of primitive calc-alkaline lavas from the southernmost Cascades, California, *in* Nixon, G. T., Johnston, A. D, and Martin, R. F., eds., *Nature and Origin of Primitive Magmas at Subduction Zones*, *Canadian Mineralogist*, v. 35, p. 425-452.
- Brantley, S. R., and Myers, Bobbie, 1997, Mount St. Helens – from the 1980 eruption to 1996: U.S. Geological Survey Fact Sheet 70-97, 2 p.
- Cashman, K. V., and Kauahikaua, J. P., 1997, Reevaluation of vesicle distributions in basaltic lava flows: *Geology*, v. 25, p. 419-422.
- Champion, D. E., and Lanphere, M. A., 1997, Age and paleomagnetism of basaltic lava flows in corehole ANL-OBS-AQ-014 at Argonne National Laboratory-West, Idaho National Engineering and Environmental Laboratory: U.S. Geological Survey Open-File Report 97-700, 34 p.

- Chiarabba, C., Amato, A., and Delaney, P. T., 1997, Crustal structure, evolution, and volcanic unrest of the Alban Hills, Central Italy: *Bulletin of Volcanology*, v. 59, p. 161-170.
- Chouet, Bernard, Saccorotti, G., Martini, M., Dawson, P., De Luca, G., Milana, G., and Scarpa, R., 1997, Source and path effects in the wave fields of tremor and explosions at Stromboli Volcano, Italy: *Journal of Geophysical Research*, v. 102, p. 15,129-15,150.
- Clynne, M. A., and Borg, L. E., 1997, Olivine and chromian spinel in primitive calc-alkaline and tholeiitic lavas from the southernmost Cascade Range, California: A reflection of relative fertility of the source, *in* Nixon, G. T., Johnston, A. D., and Martin, R. F., eds., *Nature and Origin of Primitive Magmas at Subduction Zones*, *Canadian Mineralogist*, v. 35, p. 453-472.
- Conrey, R. M., Sherrod, D. R., Hooper, P R., and Swanson, D. A., 1997, Diverse primitive magmas in the Cascade arc, northern Oregon and southern Washington, *in* Nixon, G. T., Johnston, A. D., and Martin, R. F., eds., *Nature and Origin of Primitive Magmas at Subduction Zones*, *Canadian Mineralogist*, v. 35, p. 367-396.
- Costa, J. E., 1997, Hydraulic modeling for lahar hazards at Cascades volcanoes: *Environmental and Engineering Geoscience*, v. 3, p. 21-30.
- Cramer, C. H., and McNutt, S. R., 1997, Spectral analysis of earthquakes in the 1989 Mammoth Mountain swarm near Long Valley, California: *Bulletin of the Seismological Society of America*, v. 87, p. 1454-1462.
- Crowley, J. K., and Zimelman, D. R., 1997, Mapping hydrothermally altered rocks on Mount Rainier, Washington, with Airborne Visible/Infrared Imaging Spectrometer (AVIRIS) data: *Geology*, v. 25, p. 559-562.
- Cruz, F. G., and Chouet, B. A., 1997, Long-period events, the most characteristic seismicity accompanying the emplacement and extrusion of a lava dome in Galeras Volcano, Columbia, in 1991: *Journal of Volcanology and Geothermal Research*, v. 77, p. 121-158.
- Decker, Robert, and Decker, Barbara, 1997, *Volcanoes: Third Edition*, W. H. Freeman, New York, 321 p., 1 CD-ROM.
- Delfin, F. G., Jr., Newhall, C. G., Martinez, M. L., Salonga, N. D., Bayon, F. E. B., Trimble, D., and Solidum, R., 1997, Geological, ^{14}C , and historical evidence for a 17th century eruption of Parker Volcano, Mindanao, Philippines: *Journal of the Geological Society of the Philippines*, v. 52, p. 25-42.
- Delaney, P. T., and Gartner, A. E., 1997, Physical processes of shallow mafic dike emplacement near the San Rafael Swell, Utah: *Geological Society of America Bulletin*, v. 109, p. 1177-1192.
- DeNatale, J. S., Fiegel, G. L., Iverson, R. M., Major, J. J., LaHusen, R. G., Duffy, J. D., and Fisher, G. D., 1997, Response of flexible wire rope barriers to debris-flow loading, *in* Chen, Cheng-lung, ed., *Debris-Flow Hazards Mitigation: Mechanics, Prediction, and Assessment*, *Proceedings of First International Conference*, San Francisco, 1997: New York, American Society of Civil Engineers, p. 616-625.
- Denlinger, R. P., 1997, A dynamic balance between magma supply and eruption rate at Kilauea volcano, Hawaii: *Journal of Geophysical Research*, v. 102, p. 18,091-18,100.
- Dinehart, R. L., 1997, Sediment transport in the hyperconcentrated phase of the March 19, 1982, lahar, *in* Pierson, T. C., ed., *Hydrologic consequences of hot-rock/snowpack interactions at Mount St. Helens Volcano, Washington, 1982-84*: U.S. Geological Survey Open-File Report 96-179, p. 37-52.
- Dixon, T. H., Mao, Ailin, Bursik, Marcus, Heflin, Michael, Langbein, John, Stein, Ross, and Webb, Frank, 1997, Continuous monitoring of surface deformation at Long Valley caldera, California, with GPS: *Journal of Geophysical Research*, v. 102, p. 12,017-12,034.
- Duffield, W. A., 1997, *Volcanoes of northern Arizona*: Grand Canyon Association, 68 p.
- Duffield, W. A., Bullen, T. D., Clynne, M. A., Fournier, R. O., Janik, C. J., Lanphere, M. A., Lowenstern, Jacob, Smith, J. G., W/Giorgis, Leake, Kahsai, Gabreab, W/Mariam,

- Kidane, and Tesfai, Theoderos, 1997, Geothermal potential of the Alid volcanic center, Danakil Depression, Eritrea: U.S. Geological Survey Open-File Report 97-291, 66 p.
- Dvorak, J. J., and Dzurisin, Daniel, 1997, Volcano geodesy: The search for magma reservoirs and the formation of eruptive vents: *Reviews of Geophysics*, v. 35, p. 343-384.
- Dzurisin, Dan, Stauffer, P. H., and Hendley, J. W., II, 1997, Living with volcanic risk in the Cascades: U.S. Geological Survey Fact Sheet 165-97, 2 p.
- Eichelberger, J. C., 1997, Drilling volcanoes: *Science*, v. 278, p. 1084-1085.
- Ewert, J. W., Miller, C. D., Hendley, J. W., II, and Stauffer, P. H., 1997, Mobile response team saves lives in volcano crises: U.S. Geological Survey Fact Sheet 64-97, 2 p.
- Fierstein, J., Houghton, B. F., Wilson, C. J. N., and Hildreth, W., 1997, Complexities of plinian fall deposition at vent: an example from the 1912 Novarupta eruption (Alaska): *Journal of Volcanology and Geothermal Research*, v. 76, p. 215-227.
- Flowers, Chris, 1997, Observations of geothermal activity near Pavlof Volcano on the Alaska Peninsula during March and April of 1996: U.S. Geological Survey Open-File Report 97-146, 13 p.
- Foulger, G. R., Grant, C. C., Ross, A., and Julian, B. R., 1997, Industrially induced changes in Earth structure at The Geysers geothermal area, California: *Geophysical Research Letters*, v. 24, p. 135-137.
- Garcés, M. A., 1997, On the volcanic waveguide: *Journal of Geophysical Research*, v. 102, p. 22,547-22,564.
- Garcés, M. A., and McNutt, S. R., 1997, Theory of the airborne sound field generated in a resonant magma conduit: *Journal of Volcanology and Geothermal Research*, v. 78, p. 155-178.
- Gerlach, T. M., Delgado, H., McGee, K. A., Doukas, M. P., Venegas, J. J., and Cárdenas, L., 1997, Application of the LI-COR CO₂ analyzer to volcanic plumes: A case study, volcán Popocatepetl, Mexico, June 7 and 10, 1995: *Journal of Geophysical Research*, v. 102, p. 8,005-8,019.
- Grove, T. L., Donnelly-Nolan, J. M., and Housh, Todd, 1997, Magmatic processes that generated the rhyolite of Glass Mountain, Medicine Lake volcano, N. California: *Contributions to Mineralogy and Petrology*, v. 127, p. 205-223.
- Harris, A. J. L., Keszthelyi, Laszlo, Flynn, L. P., Mouginiis-Mark, P. J., Thornber, Carl, Kauahikaua, James, Sherrod, David, Trusdell, Frank, Sawyer, M. W., and Flament, Pierre, 1997, Chronology of the episode 54 eruption at Kilauea Volcano, Hawaii, from GOES-9 satellite data: *Geophysical Research Letters*, v. 24, p. 3281-3284.
- Hawaiian Volcano Observatory Library, 1997, Computerized bibliographic database of publications relating to diversion of lava flows, *in*, Williams, R. S., Jr., ed., *Lava-cooling operations during the 1973 eruption of Eldfell Volcano, Heimaey, Vestmannaeyjar, Iceland*: U.S. Geological Survey Open-File Report 97-724, p. 67-73.
- Hayba, D. O., and Ingebritsen, S. E., 1997, Multiphase groundwater flow near cooling plutons: *Journal of Geophysical Research*, v. 102, p. 12,235-12,252.
- Heliker, Christina, Stauffer, P. H., and Hendley, J. W., II, 1997, Living on active volcanoes—the Island of Hawaii: U.S. Geological Survey Fact Sheet 74-97, 2 p.
- Hickman, Stephen, Barton, Colleen, Zoback, Mark, Morin, Roger, Sass, John, and Benoit, Richard, 1997, In-situ stress and fracture permeability in a fault-hosted geothermal reservoir at Dixie Valley, Nevada: *Geothermal Resources Council Transactions*, v. 21, p. 181-189.
- Hickman, Stephen, and Zoback, Mark, 1997, In-situ stress in a fault-hosted geothermal reservoir at Dixie Valley, Nevada: *Proceedings, Twenty-second Workshop on Geothermal Reservoir Engineering*, Stanford University, Stanford, California, p.141-146.
- Hildreth, W., and Fierstein, J., 1997, Recent eruptions of Mount Adams, Washington Cascades, USA: *Bulletin of Volcanology*, v. 58, p. 472-490.

- Hill, D. P., Bailey, R. A., Miller, C. D., Hendley, J. W., II, and Stauffer, P. H., 1997, Future eruptions in California's Long Valley area—What's likely?: U.S. Geological Survey Fact Sheet 73-97, 2 p.
- Howle, J. F., and Farrar, C. D., 1997, Deformation in the Casa Diablo geothermal well field, Long Valley caldera, eastern California, *in* Prince, K. R., and Leake, S. A., eds., Proceedings U.S. Geological Survey Subsidence Interest Group Conference, U.S. Geological Survey Open-File Report 97-47, p. 31-35.
- International Association of Volcanology and Chemistry of the Earth's Interior, 1997, Reducing Volcanic Risk: International Association of Volcanology and Chemistry of the Earth's Interior, VHS video, 24 min.
- Iverson, R. M., 1997, Hydraulic modeling of unsteady debris-flow surges with solid-fluid interactions, *in* Chen, Cheng-lung, ed., Debris-Flow Hazards Mitigation: Mechanics, Prediction, and Assessment, Proceedings of First International Conference, San Francisco, 1997: New York, American Society of Civil Engineers, p. 550-560.
- Iverson, R. M., 1997, The physics of debris flows: *Reviews of Geophysics*, v. 35, p. 245-296.
- Iverson, R. M., 1997, Discussion of slope instability from ground-water seepage: *Journal of Hydraulic Engineering*, v. 123, p. 929-930.
- Iverson, R. M., Reid, M. E., and LaHusen, R. G., 1997, Debris-flow mobilization from landslides: *Annual Review of Earth and Planetary Sciences*, v. 25, p. 85-138.
- Kennedy, B. M., Kharaka, Y. K., Evans, W. C., Ellwood, A., DePaolo, D. J., Thordsen, J., Ambats, G., and Mariner, R. H., 1997, Mantle fluids in the San Andreas Fault system, California: *Science*, v. 278, p. 1278-1281.
- Kleinman, J. W., Iwatsubo, E. Y., Power, J. A., and Endo, E. T., 1997, Geodetic studies in the Novarupta area, Katmai National Park, Alaska, 1990 to 1995, *in* Dumoulin, J. A., and Gray, J. E., eds., *Geologic Studies in Alaska by the U.S. Geological Survey, 1995: U.S. Geological Survey Bulletin 1574*, p. 83-92.
- Langbein, John, and Johnson, Hadley, 1997, Correlated errors in geodetic time series: Implications for time-dependent deformation: *Journal of Geophysical Research*, v. 102, p. 591-603.
- Lipman, Peter, 1997, Chasing the volcano: *Earth*, v. 6, n. 6, p. 32-39.
- Lipman, Peter, Dungan, Michael, and Bachmann, Olivier, 1997, Comagmatic granophyric granite in the Fish Canyon Tuff, Colorado: Implications for magma-chamber processes during a large ash-flow eruption: *Geology*, v. 25, p. 915-918.
- Loeffler, Bruce, Hazlett, Richard, and Kauahikaua, James, 1997, Active and recently active volcanic geology on the Island of Hawai'i, *in* Mendelson, C. V., and Mankiewicz, Carol, eds., Proceedings Tenth Keck Research Symposium in Geology, April 1997, p. 200-202.
- Lowenstern, J. B., Clyne, M. A., and Bullen, T. D., 1997, Comagmatic A-Type granophyre and rhyolite from the Alid volcanic center, Eritrea, northeast Africa: *Journal of Petrology*, v. 38, p. 1707-1721.
- Lowenstern, J. B., Janik, C. J., Tesfai, Theoderos, and Fournier, R. O., 1997, Geochemical study of the Alid hydrothermal system, Danakil Depression, Eritrea: Proceedings, Twenty-second Workshop on Geothermal Reservoir Engineering, Stanford University, Stanford, California, p. 37-44.
- Lu, Z., Fatland, R., Wyss, M., Li, S., Eichelberger, J., Dean, K., and Freymueller, J., 1997, Deformation of New Trident volcano measured by ERS-1 SAR interferometry, Katmai National Park, Alaska: *Geophysical Research Letters*, v. 24, p. 695-698.
- Macías, J. L., García, P. A., Arce, J. L., Siebe, C., Espíndola, J. M., Komorowski, J. C., and Scott, K., 1997, Late Pleistocene-Holocene cataclysmic eruptions at Nevado de Toluca and Jocotitlán volcanoes, central Mexico, *in* Link, P. K., and Kowallis, B. J., eds., Proterozoic to Recent Stratigraphy, Tectonics, and Volcanology, Utah, Nevada, Southern Idaho and Central Mexico, Field Trip Guidebook, 1997 Geological Society of America Annual Meeting, *Geology Studies*, v. 42, pt. 1, Department of Geology, Brigham Young University, Provo, Utah, p. 493-528.

- Major, J. J., 1997, Depositional processes in large-scale debris-flow experiments: *Journal of Geology*, v. 105, p. 345-366.
- Major, J. J., 1997, Discussion on verification of vertically rotating flume using non-Newtonian fluids: *Journal of Hydraulic Engineering*, v. 123, p. 936-937.
- Major, J. J., 1997, Book review of *Clean water: The Citizen's Complete Guide to Water Quality and Water Pollution Control*, by K. M. Vigil, Columbia Cascade, 1996: *Northwest Science*, v. 71, p. 161-162.
- Major, J. J., and Iverson, R. M., 1997, Experimental analysis of debris-flow deposition--process and effects of pore-fluid pressure, *in* *Proceedings of International Symposium on Natural Disaster Prediction and Mitigation*, Disaster Prevention Research Institute, Kyoto University, December 1-5, Kyoto, Japan, p. 419-426.
- Major, J. J., Iverson, R. M., McTigue, D. F., Macias, S., and Fiedorowicz, B. K., 1997, Geotechnical properties of debris-flow sediments and slurries, *in* Chen, Cheng-lung, ed., *Debris-Flow Hazards Mitigation: Mechanics, Prediction, and Assessment*, *Proceedings of First International Conference*, San Francisco, 1997: New York, American Society of Civil Engineers, p. 249-259.
- Major, J. J., and Pringle, P. T., 1997, Rock avalanches, rockfalls, and associated processes induced by spreading of the lava dome, March 1984, *in* Pierson, T. C., ed., *Hydrologic consequences of hot-rock/snowpack interactions at Mount St. Helens Volcano*, Washington, 1982-84: U.S. Geological Survey Open-File Report 96-179, p. 69-80.
- March, R. S., Mayo, L. R., and Trabandt, D. C., 1997, Snow and ice volume on Mount Spurr Volcano, Alaska, 1981: U.S. Geological Survey Water-Resources Investigations Report 97-4142, 36 p., 2 plates, scale 1:50,000.
- Mariner, R. H., Young, H. W., Bullen, T. W., and Janik, C. J., 1997, Sulfate-water isotope geothermometry and lead isotope data for the regional geothermal system in the Twin Falls area, south-central Idaho: *Geothermal Resources Council Transactions*, v. 21, p. 197-201.
- Marshall, G. A., Langbein, John, Stein, R. S., Lisowski, Michael, and Svarc, Jerry, 1997, Inflation of Long Valley caldera, California, Basin and Range strain, and possible Mono Craters dike opening from 1990-94 GPS surveys: *Geophysical Research Letters*, v. 24, p. 1003-1006.
- Mastin, L. G., 1997, Evidence for water influx from a caldera lake during the explosive hydromagmatic eruption of 1790, Kilauea volcano, Hawaii: *Journal of Geophysical Research*, v. 102, p. 20,093-20,109.
- Matsu'ura, Mitsuhiro, Marone, C. J., McNutt, S. R., Takeo, Minoru, Main, I. G., and Rundle, J. B., eds., 1997, *Earthquake Generation Processes: Environmental Aspects and Physical Modelling*, Symposium SJS1, XXI General Assembly of IUGG, Boulder, Colorado, July 1995: *Tectonics*, v. 277, 233 p.
- Matsu'ura, Mitsuhiro, Marone, C. J., McNutt, S. R., Takeo, Minoru, Main, I. G., and Rundle, J. B., 1997, Preface, *Earthquake Generation Processes: Environmental Aspects and Physical Modelling: Tectonics*, v. 277, p. vii-viii.
- Mattox, T. N., and Mangan, M. T., 1997, Littoral hydrovolcanic explosions: a case study of lava-seawater interaction at Kilauea Volcano: *Journal of Volcanology and Geothermal Research*, v. 75, p. 1-17.
- McConnell, V. S., Begét, J. E., Roach, A. L., Bean, K. W., and Nye, C. J., 1997, Geologic map of the Makushin volcanic field, Unalaska Island, Alaska: Alaska Division of Geological and Geophysical Surveys Report of Investigations RI 97-20, 2 plates, scale 1:63,360.
- McNutt, S. R., Ida, Y., Chouet, B. A., Okubo, P., Oikawa, J., and Saccorotti, G., 1997, Kilauea Volcano provides hot seismic data for joint Japanese-U.S. experiment: *Eos Transactions of the American Geophysical Union*, v. 78, p. 105, 111.
- Miklius, Asta, Coloma, Francine, Denlinger, Roger, Lisowski, Michael, Owen, Susan, Sako, Maurice, and Segall, Paul, 1997, Global Positioning System measurements on the Island of Hawaii: 1993 through 1996: U.S. Geological Survey Open-File Report 97-698, 114 p.

- Miller, K. C., Keller, G. R., Gridley, J. M., Luetgert, J. H., Mooney, W. D., and Thybo, Hans, 1997, Crustal structure along the west flank of the Cascades, western Washington: *Journal of Geophysical Research*, v. 102, p. 17,857-17,873.
- Minissale, Angelo, Evans, W. C., Magro, Gabriella, and Vaselli, Orlando, 1997, Multiple source components in gas manifestations from north-central Italy: *Chemical Geology*, v. 142, p. 175-192.
- Montserrat Volcano Observatory Team, 1997, The ongoing eruption in Montserrat: *Science*, v. 276, p.371-372.
- Morrissey, M. M., 1997, Long-period seismicity at Redoubt Volcano, Alaska, 1989-1990 related to magma degassing: *Journal of Volcanology and Geothermal Research*. v. 75, p. 321-335.
- Morrissey, M. M., and Chouet, B. A., 1997, A numerical investigation of choked flow dynamics and its application to the triggering mechanism of long-period events at Redoubt Volcano, Alaska: *Journal of Geophysical Research*, v. 102, p. 7,965-7,983.
- Morrissey, M. M., and Chouet, B. A., 1997, Burst conditions of explosive volcanic eruptions recorded on microbarographs: *Science*, v. 275, p. 1290-1293.
- Myers, Bobbie, Brantley, S. R., Stauffer, Peter, and Hendley, J. W., II, 1997, What are volcano hazards?: U.S. Geological Survey Fact Sheet 2-97, 2 p.
- Nakata, Jennifer, and Okubo, Paul, 1997, Determination of station amplitude magnitude corrections for the Hawaiian Volcano Observatory telemetered seismographic network: Data from 1992 - 1997: U.S. Geological Survey Open-File Report 97-863, 73 p.
- Nathenson, Manuel, 1997, Publications of the Volcano Hazards Program 1994-1996: U.S. Geological Survey Open-File Report 97-692, 31 p.
- Neal, C. A., 1997, Pavlof darkens the Alaskan sky: *Earth in Space*, v. 9, n. 8, p. 6-9.
- Neal, C. A., 1997, What is the Alaska Volcano Observatory: U.S. Geological Survey Open-File Report 97-443, 1 p.
- Neal, C. A., Casadevall, T. J., Miller, T. P., Hendley, J. W., II, and Stauffer, P. H., 1997, Volcanic Ash—Danger to aircraft in the North Pacific: U.S. Geological Survey Fact Sheet 30-97, 2 p.
- Neal, C. A., and McGimsey, R. G., 1997, 1996 volcanic activity in Alaska and Kamchatka: summary of events and response of the Alaska Volcano Observatory: U.S. Geological Survey Open-File Report 97-433, 34 p.
- Neal, C. A., and McGimsey, R. G., 1997, Volcanoes of the Alaska Peninsula and Aleutian Islands - selected photographs: U.S. Geological Survey Digital Data Series 97-40, 1 CD-ROM.
- Newhall, Chris, Hendley, J. W., II, and Stauffer, P. H., 1997, Benefits of volcano monitoring far outweigh costs—The case of Mount Pinatubo: U.S. Geological Survey Fact Sheet 115-97, 2 p.
- Newhall, Chris, Hendley, J. W., II, and Stauffer, P. H., 1997, The cataclysmic 1991 eruption of Mount Pinatubo, Philippines: U.S. Geological Survey Fact Sheet 113-97, 2 p.
- Newhall, Chris, Stauffer, P. H., and Hendley, J. W., II, 1997, Lahars of Mount Pinatubo, Philippines: U.S. Geological Survey Fact Sheet 114-97, 2 p.
- Norris, R. D., Meagher, K. L., and Weaver, C. S., 1997, The 1936, 1945–1947, and 1950 earthquake sequences near Lassen Peak, California: *Journal of Geophysical Research*, v. 102, p. 449-457.
- Nye, C. J., 1997, DGGS active in Alaska Volcano Observatory mission: *Alaska GeoSurvey News*, v.1, n. 2, p. 1-2.
- Okubo, P. G., Benz, H. M., and Chouet, B. A., 1997, Imaging the crustal magma sources beneath Mauna Loa and Kilauea volcanoes, Hawaii: *Geology*, v. 25, p. 867-870.
- Olmsted, F. H., Welch, A. H., Sorey, M. L., and Schaefer, D. H., 1997, The geothermal hydrology of southern Grass Valley, Pershing County, Nevada: U.S. Geological Survey Water Resources Investigations Report 96-4139, 128 p.
- Pieri, D. C., Khrenov, A. P., Miller, T. P., Zharinov, S. E., Realmuto, V., Abrams, M., Glaze, L. S., Kahle, A. B., Drozhin, V., Dvigalo, V., Kirianov, V., Abbott, E., and

- Chernobieff, S., 1997, Joint effort results in first TIMS survey of Kamchatka Volcanoes: *Eos Transactions of the American Geophysical Union*, v. 78, p. 125, 128.
- Pierson, T. C., ed., 1997, Hydrologic consequences of hot-rock/snowpack interactions at Mount St. Helens Volcano, Washington, 1982-84: U.S. Geological Survey Open-File Report 96-179, 117 p.
- Pierson, T. C., 1997, Transformation of water flood to debris flow following the eruption-triggered transient-lake breakout from the crater on March 19, 1982, *in* Pierson, T. C., ed., Hydrologic consequences of hot-rock/snowpack interactions at Mount St. Helens Volcano, Washington, 1982-84: U.S. Geological Survey Open-File Report 96-179, p. 19-36.
- Pierson, T. C., and Waitt, R. B., 1997, Introduction, *in* Pierson, T. C., ed., Hydrologic consequences of hot-rock/snowpack interactions at Mount St. Helens Volcano, Washington, 1982-84: U.S. Geological Survey Open-File Report 96-179, p. 1-8.
- Pierson, T. C., and Waitt, R. B., 1997, Dome-collapse rockslide and multiple sediment-water flows generated by a small explosive eruption on February 2-3, 1983, *in* Pierson, T. C., ed., Hydrologic consequences of hot-rock/snowpack interactions at Mount St. Helens Volcano, Washington, 1982-84: U.S. Geological Survey Open-File Report 96-179, p. 53-68.
- Pringle, P. T., and Cameron, K. A., 1997, Eruption-triggered lahar on May 14, 1984, *in* Pierson, T. C., ed., Hydrologic consequences of hot-rock/snowpack interactions at Mount St. Helens Volcano, Washington, 1982-84: U.S. Geological Survey Open-File Report 96-179, p. 81-103.
- Realmuto, V. J., Sutton, A. J., and Elias, T., 1997, Multispectral thermal infrared mapping of sulfur dioxide plumes: A case study from the East Rift Zone of Kilauea Volcano, Hawaii: *Journal of Geophysical Research*, v. 102, p. 15,057-15,072.
- Reid, M. E., LaHusen, R. G., and Iverson, R. M., 1997, Debris-flow initiation experiments using diverse hydrologic triggers, *in* Chen, Cheng-lung, ed., *Debris-Flow Hazards Mitigation: Mechanics, Prediction, and Assessment*, Proceedings of First International Conference, San Francisco, 1997: New York, American Society of Civil Engineers, p. 1-11.
- Richter, D. H., Moll-Stalcup, Elizabeth, Duffield, W. A., and Shew, Nora, 1997, Geologic map of the Nabesna A-6 quadrangle, Alaska: U.S. Geological Survey Open-File Report 97-475, 22p., 1 plate, scale 1:63,360.
- Roberts, Carter, 1997, Density measurements of well samples from the Clear Lake-Geysers area, Lake and Sonoma counties, California: U.S. Geological Survey Open-File Report 97-427, 8 p.
- Roberts, C. W., Blakely, R. J., and Finn, Carol, 1997, Preliminary merged aeromagnetic map of Oregon: U.S. Geological Survey Open-File Report 97-440, 2 sheets, scale 1:500,000.
- Ryan, M. P., 1997, Review of Backarc Basins: Tectonics and magmatism, edited by Brian Taylor, Plenum Press, New York, 1995: *Journal of Volcanology and Geothermal Research*, v. 75, p. 179-181.
- Schilling, S. P., and Iverson, R. M., 1997, Automated, reproducible delineation of zones at risk from inundation by large volcanic debris flows, *in* Chen, Cheng-lung, ed., *Debris-Flow Hazards Mitigation: Mechanics, Prediction, and Assessment*, Proceedings of First International Conference, San Francisco, 1997: New York, American Society of Civil Engineers, p. 176-186.
- Scott, W. E., Gardner, C. A., Sherrod, D. R., Tilling, R. I., Lanphere, M. A., and Conrey, R. M., 1997, Geologic history of Mount Hood Volcano, Oregon—A field-trip guidebook: U.S. Geological Survey Open-File Report 97-263, 38 p.
- Scott, W. E., Pierson, T. C., Schilling, S. P., Costa, J. E., Gardner, C. A., Vallance, J. W., and Major, J. J., 1997, Volcano hazards in the Mount Hood region, Oregon: U.S. Geological Survey Open-File Report 97-89, 14 p., 1 sheet, scale 1:100,000.
- Seltmann, Reimar, Lehmann, Bernd, Lowenstern, J. B., and Candela, P. A., eds., 1997, High-level silicic magmatism and related hydrothermal systems: International Association

- of Volcanology and Chemistry of the Earth's Interior 1997 selected papers: *Journal of Petrology*, v. 38, p. 1617-1807.
- Seltmann, Reimar, Lehmann, Bernd, Lowenstern, J. B., and Candela, P. A., 1997, High-level silicic magmatism and related hydrothermal systems: Editorial: *Journal of Petrology*, v. 38, p. 1617-1618.
- Sherrod, D. R., Mastin, L. G., Scott, W. E., and Schilling, S. P., 1997, Volcano hazards at Newberry Volcano, Oregon: U.S. Geological Survey Open-File Report 97-513, 14 p., 1 plate, scale 1:100,000.
- Singer, B. S., Thompson, R. A., Dungan, M. A., Feeley, T. C., Nelson, S. T., Pickens, J. C., Brown, L. L., Wulff, A. W., Davidson, J. P., and Metzger, J., 1997, Volcanism and erosion during the past 930 k.y. at the Tatara-San Pedro complex, Chilean Andes: *Geological Society of America Bulletin*, v. 109, p. 127-142.
- Sorey, M. L., 1997, Hydrologic changes associated with geothermal development in Long Valley, California: *Proceedings of New Energy Development Organization International Geothermal Symposium*, Sendai, Japan, p. 289-291.
- Sorey, M. L., and Colvard, E. M., 1997, Hydrologic investigations in the Mammoth corridor, Yellowstone National Park and vicinity, U.S.A.: *Geothermics*, v. 26, p. 221-249.
- Spicer, K. R., Costa, J. E., and Placzek, Gary, 1997, Measuring flood discharge in unstable stream channels using ground-penetrating radar: *Geology*, v. 25, p. 423-426.
- Stanley, W. D., Benz, H. M., Walters, M. A., and Rodriguez, B. D., 1997, Tectonic controls on magmatism and geothermal resources in The Geysers-Clear Lake region, California: Integration of new geologic, earthquake tomography, seismicity, gravity, and magnetotelluric data: U.S. Geological Survey Open-File Report 97-95, 40 p.
- Sutton, Jeff, Elias, Tamar, Hendley, J. W., II, and Stauffer, P. H., 1997, Volcanic air pollution—a hazard in Hawaii: U.S. Geological Survey Fact Sheet 169-97, 2 p.
- Swanson, D. A., Moore, R. B., and Banks, N. G., 1997, Geologic map of the Packwood quadrangle, southern Cascade Range, Washington: U.S. Geological Survey Open-File Report 97-157, 18p., 2 plates, scale 1:24,000.
- Symonds, R. B., Ritchie, B. E., McGimsey, R. G., Ort, M. H., Poreda, R. J., Evans, W. C., and Janik, C. J., 1997, Investigations of gas seeps and springs in the vicinity of the Gas Rocks, south shore Becharof Lake, Alaska: U.S. Geological Survey Open-File Report 97-127, 27 p.
- Thatcher, Wayne, and Massonnet, Didier, 1997, Crustal deformation at Long Valley Caldera, eastern California, 1992–1996 inferred from satellite radar interferometry: *Geophysical Research Letters*, v. 24, p. 2519-2522.
- The 1996 Loihi Science Team, 1997, Researchers rapidly respond to submarine activity at Loihi Volcano, Hawaii: *Eos Transactions of the American Geophysical Union*, v. 78, p. 229, 232, 233.
- Thornber, C. H., 1997, HVO/RVTS-1: A prototype remote video telemetry system for monitoring the Kilauea East Rift Zone eruption, 1997: U.S. Geological Survey Open-File Report 97-537, 18 p.
- Trabant, D. C., and Hawkins, D. B., 1997, Glacier ice-volume modeling and glacier volumes on Redoubt Volcano, Alaska: U.S. Geological Survey Water-Resources Investigations Report 97-4187, 29 p.
- U.S. Geological Survey, 1997, Who's keeping watch over Cascades volcanoes?: U.S. Geological Survey Open-File Report 97-125, 6 p.
- U.S. Geological Survey, 1997, Volcanoes!: U.S. Geological Survey, teaching guide, 6 lessons, 1 folded plate.
- Vallance, J. W., and Scott, K. M., 1997, The Osceola mudflow from Mount Rainier: sedimentology and hazard implications of a huge clay-rich debris flow: *Geological Society of America Bulletin*, v. 109, p. 143-163.
- Varekamp, J. C., and Rowe, G. L., 1997, Exotic fluids in the Exosphere: When Hades meets Apollo: *Eos Transactions of the American Geophysical Union*, v. 78, p. 237, 239.

- Volcano Hazards Team, 1997, Volcano Hazards Program five-year science plan—1998 to 2002: U.S. Geological Survey Open-File Report 97-680, 23 p.
- Walder, J. S., 1997, Nature of depositional contacts between pyroclastic deposits and snow or ice, *in* Pierson, T. C., ed., Hydrologic consequences of hot-rock/snowpack interactions at Mount St. Helens Volcano, Washington, 1982-84: U.S. Geological Survey Open-File Report 96-179, p. 9-18, 109-113, 117.
- Walder, J. S., and Fountain, A. G., 1997, Glacier generated floods, *in* Leavesley, G. H., Lins, H. F., Nobilis, F., Parker, R. S., Schneider, V. R., and van den Ven, F. H. M., eds., Destructive water: water-caused natural disasters, their abatement and control, International Association of Hydrological Sciences Publication 239, p. 107-113.
- Walder, J. S., and O'Connor, J. E., 1997, Methods for predicting peak discharge of floods caused by failure of natural and constructed earthen dams: *Water Resources Research*, v. 33, p. 2337-2348.
- Walder, J. S., O'Connor, J. E., and Costa, J. E., 1997, A physically based method for predicting peak discharge of floods caused by failure of natural and constructed earthen dams: *in* Leavesley, G. H., Lins, H. F., Nobilis, F., Parker, R. S., Schneider, V. R., and van den Ven, F. H. M., eds., Destructive water: water-caused natural disasters, their abatement and control, International Association of Hydrological Sciences Publication 239, p. 217-224.
- Waythomas, C. F., Miller, T. P., McGimsey, R. G., and Neal, C. A., 1997, Preliminary volcanic-hazard assessment for Pavlof Volcano, Alaska: U.S. Geological Survey Open-File Report 97-135, 1 over-size sheet.
- Werner, C., Janik, C. J., Goff, F., Counce, D., Johnson, L., Siebe, C., Delgado, H., Williams, S. N., and Fischer, T. P., 1997, Geochemistry of summit fumarole vapors and flanking thermal/mineral waters at Popocatepetl Volcano, Mexico: Los Alamos National Laboratory Report LS-13289-MS, 33 p.
- Wiemer, Stefan, and McNutt, S. R., 1997, Variations in the frequency-magnitude distribution with depth in two volcanic areas: Mount St. Helens, Washington, and Mt. Spurr, Alaska: *Geophysical Research Letters*, v. 24, p. 189-192.
- Williams, C. F., and Sass, John, 1997, Thermal signature of subsurface fluid flow near the Dixie Valley geothermal reservoir, Nevada: *Proceedings, Twenty-second Workshop on Geothermal Reservoir Engineering*, Stanford University, Stanford, California, p.161-168.
- Wilson, C. J. N., and Hildreth, W., 1997, The Bishop Tuff: New insights from eruptive stratigraphy: *Journal of Geology*, v. 105, p. 407-439.
- Wilson, F. H., Weber, F. R., and Dochat, T. M., Quaternary geology, Wilson, F. H., Miller, T. P., and Detterman, R. L., bedrock geology, 1997, Revised geologic map of the Cold Bay and False Pass Quadrangles, Alaska Peninsula: U.S. Geological Survey Open-File Report 97-866, 34 p., 1 plate, scale 1:250,000.
- Wolfe, E. W., 1997, Major-oxide analyses for Mauna Kea Volcano, Hawaii: U.S. Geological Survey Open-File Report 97-84, 1 computer diskette.
- Wolfe, E. W., Wise, W. S., and Dalrymple, G. B., 1997, The geology and petrology of Mauna Kea Volcano, Hawaii—A study of postshield volcanism: U.S. Geological Survey Professional Paper 1557, 129 p., 2 plates, scale 1:100,000, 2 plates, scale 1:24,000.
- Wolfe, K. J., and Eichelberger, J. C., 1997, Syneruptive mixing, degassing, and crystallization at Redoubt Volcano, eruption of December, 1989 to May 1990: *Journal of Volcanology and Geothermal Research*, v. 75, p. 19-37.
- Yamashita, K. M., Endo, Elliott, Sako, Maurice, and Wieprecht, David, 1997, Descriptions and elevations for First-Order, Class II leveling bench marks, and Global Positioning System (GPS) coordinates and elevations between West Yellowstone, Montana, and Old Faithful, Yellowstone National Park, Wyoming: U.S. Geological Survey Open-File Report 97-57, 29 p.