

# Staff Publications and Activities

## Publications

*Application of a Digital Geologic Map Data Model in ArcView GIS*, by L.R. Stanford and V.T. MacKubbin, in D.R. Soller, ed., *Digital Mapping Techniques 2000 Workshop Proceedings*: U.S. Geological Survey Open-File Report 00-325, 2000.

*A Field Workshop Report: IAVCEI-CEV/IUGG Field Workshop, July 7-18, 1999: Inside Silicic Calderas*, by M.M. Godchaux and B. Bonnichsen: CEV (Commission on Explosive Volcanism) Newsletter of the IAVCEI (International Association of Volcanism and Chemistry of the Earth's Interior), December 1999, No. 99-02, p. 8-13.

*Geologic Map Compilation of the Pocatello 30' x 60' Quadrangle, Idaho*, by P.K. Link and L.R. Stanford: Idaho Geological Survey Technical Report 99-2, scale 1:100,000.

*Geologic Map of the Pocatello South Quadrangle, Idaho*, by D.W. Rodgers and K.L. Othberg: Idaho Geological Survey Geologic Map 26, 1999, scale 1:24,000.

*History of Selected Mines, in the Custer Area, Custer County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 99-7, 1999, 46 p.

*History of Selected Mines, in the Lakeview Mining District, Bonner County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 00-4, 2000, 164 p.

*History of Selected Mines in the Mineral District, Washington County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 00-14, 2000, 33 p.

*History of Selected Mines in the Pine Creek Area Shoshone County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 00-2, 2000, 302 p.

*History of the Atlanta Mining Area, Elmore County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 00-15, 2000, 218 p.

*History of the Bear Top, Ione, and Orofino Mines, Shoshone County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 00-8, 2000, 42 p.

*History of the Black Horse, Paragon, and St. Peter Mines, Shoshone County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 00-7, 2000, 46 p.

*History of the Copper Basin Mine, Custer County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 99-1, 1999, 10 p.

*History of the Golden Anchor Mine, Idaho County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 00-11, 2000, 28 p.

*History of the Idaho Almaden Mine, Washington County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 00-9, 2000, 43 p.

*History of the Idaho Continental Mine, Boundary County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 00-5, 2000, 112 p.

*History of the Ima Mine, Lemhi County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 99-2, 1999, 39 p.

*History of the Jack Waite Mine, Shoshone County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 00-6, 2000, 71 p.

*History of the Kimberly Mine, Idaho County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 00-10, 2000, 20 p.

*History of the Lead Belt Mine, Butte County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 99-3, 1999, 8 p.

*History of the Mines in the Bayhorse Area, Custer County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 99-8, 1999, 40 p.

*History of the Minnie Moore Mine, Blaine County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 00-12, 2000, 37 p.

*History of the Phi Kappa Mine, Custer County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 99-4, 1999, 12 p.

*History of the Princess Blue Ribbon Mine, Camas County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 00-13, 2000, 13 p.

*History of the Spring Mountain Mine, Lemhi County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 99-5, 1999, 7 p.

*History of the Stibnite Mining Area, Valley County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 00-3, 2000, 166 p.

*History of the Viola Mine, Lemhi County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 99-9, 1999, 25 p.

*History of the Wilbert Mine, Butte County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 00-1, 2000, 37 p.

*History of the Wildhorse Mine, Custer County, Idaho*, by V.E. Mitchell: Idaho Geological Survey Staff Report 99-6, 1999, 26 p.

*Idaho 1998 Annual Estimate: Mineral Industry Surveys*, by A. Tanner with V.S. Gillerman: U.S. Geological Survey, December, 1999, 5 p.

*Idaho Annual Report*, by R.M. Breckenridge and S. Weiser: Western States Seismic Policy Council Annual Conference Program Guide, 1999, p. 32-33.

*Idaho Geological Survey and the Idaho Bureau of Disaster Services, Western States Seismic Policy Council Member Agency Report, Part 2*, by R.M. Breckenridge and S. Weiser: Earthquake Quarterly,

Winter, 2000, p. 4.

*Mineral Industry of Idaho (1998)* by A. Tanner with V.S. Gillerman: U.S. Geological Survey Minerals Yearbook Chapter, v. II, p. 14.1-14.5.

*Mining and Exploration in Idaho, 1999*, by V.S. Gillerman and E.H. Bennett: Mining Engineering, May, 2000, v. 51, no. 5, p. 67-70.

*Simulating Basalt Lava Flows Using a Structure Imitation Approach*, by T.M. Clemo and J.A. Welhan, in L.R. Bentley, ed., Proceedings, XIII International Conference on Computational Methods in Water Resources, Calgary, 2000, v. 2, p. 841-848.

## Abstracts

*Crustal Assimilation at a Snake River Plain Basaltic Hydrovolcano and Its Relationship to Eruptive Style*, by C.M. White, C.A. Watson, and B. Bonnicksen: Proceedings of the IAVCEI Meeting, Bali, Indonesia, 2000.

*Geologic Map of the St. Maries 30' X 60' Quadrangle, Idaho*, by R.S. Lewis, R.F. Burmester, and T.P. Frost: Geological Society of America Abstracts with Program, 2000, v. 32, no. 5, p. 16.

*Ground Water Protection in the Pocatello-Chubbuck-Fort Hall Area: A Parallel Approach to the State Source Water Assessment Process*, by J.A. Welhan: Proceedings of the Intermountain Conference on the Environment, Pocatello, 1999, p. 68-72.

*Miocene and Younger Faults in Idaho*, by R.M. Breckenridge, G.W. Adema, R.S. Lewis, D.W. Weisz, and J.S. Freed: Geological Society of America Abstracts with Program, v. 32, No. 5, p. A-3.

## Reports and Presentations

*1999 Developments in Idaho's Mineral Industry*, by V.S. Gillerman: Northwest Mining Association 105th Annual Meeting, Spokane, Washington, December.

*The Application of a Digital Geologic Map Data Model in ArcView: Demonstration*, by L.R. Stanford, V. MacKubbin, and R. Anton-Erik: Intermountain GIS User's Conference 2000, Kalispell, Montana, May.

*An Assessment of Ground Water Levels and Flow in the Vicinity of the Highway Pond, Lower Portneuf River Valley*: by J.A. Welhan: Idaho Geological Survey unpublished report, May, 25 p.

*Bedrock Depth and Morphology of the Rathdrum Prairie, Idaho*, by G.W. Adema, R.M. Breckenridge, and K.F. Sprenke: Idaho Geological Survey unpublished report, June, 63 p.

*The Clark Fork Ice Dam and Breakout Area of the Missoula Floods*, by R.M. Breckenridge: Seventh Annual Idaho Earthquake Education Workshop, Farragut State Park, July.

*Comparison of Physical Features Observed in Silicic Ignimbrites in Idaho's Snake River Plain With*

*Those at the Snowdon, Scafell, and Glencoe Calderas, U.K.*, by M.M. Godchaux and B. Bonnichsen: IAVCEI Commission on Explosive Volcanism Workshop, United Kingdom, July.

*Demonstration of the Idaho Geological Survey's Digital Geologic Map Data Model*, by L.R. Stanford: Idaho Geographic Information Advisory Committee meeting, Boise, November.

*Demonstration of the Idaho Geological Survey's Digital Geologic Map Data Model Applied in ArcView GIS*, by L.R. Stanford: North American Digital Geologic Map Data Model Steering Committee meeting, Lexington, Kentucky, May.

*Economics and History of Mining in North Idaho*, by E.H. Bennett: Coeur d'Alene Economic Development Leadership Association, August.

*An Estimation of Ground-Shaking Hazard Due to Seismically Induced Bedrock Motion in the Vicinity of Idaho Falls, Idaho*, by B.K. Peterson, G.W. Adema, and R.M. Breckenridge: Idaho Bureau of Disaster Services report, January, 11 p.

*Evaluation of the Pollock Landslide*, by G.W. Adema, D.W. Weisz, and R.M. Breckenridge: Idaho Geological Survey unpublished report, September, 12 p.

*Exhibit of Surficial Geologic Map of the Post Falls and Part of Liberty Lake Quadrangles, Kootenai County, Idaho*, by L.R. Stanford: International Cartographic Exhibition, Ottawa, Canada, August.

*Exhibit of Surficial Geologic Map of the Post Falls and Part of Liberty Lake Quadrangles, Kootenai County, Idaho*, by L.R. Stanford, in C.A. Brewer, ed., *Cartography and Geographic Information Science*, 1999, v. 26, no. 3., p. 200.

*Geologic Hazards Curriculum Development Project*, by T.C. Walker: Idaho Earth Science Teachers Association winter meeting, March.

*Geologic Map of the Coeur d'Alene 30' x 60' Quadrangle, Kootenai and Shoshone Counties, Idaho*, by R.S. Lewis, R.E. Burmester, R.M. Breckenridge, M.A. McFadden, and J.A. Kauffman: Idaho Geological Survey unpublished map, scale 1:100,000, April.

*Geologic Map of the Idaho City 30' x 60' Quadrangle, Idaho*, by T.H. Kiilsgaard, L.R. Stanford, and R.S. Lewis: Idaho Geological Survey unpublished map, 1:100,000 scale, April.

*Geology and Geomorphology of Northern Idaho*, by K.L. Othberg: 40th National Soils Contest, University of Idaho, April.

*Geology and Landslide Hazards*, by K.L. Othberg: Latah County Planning and Zoning Commission meeting, May.

*Geology and Physiography of the Palouse*, by K.L. Othberg: Northwest Chapter of Biological Photographers Association, Pullman, Washington, June.

*Geology in Everyday Life*, by V.S. Gillerman: Silver Sage Girl Scouts, Boise, April.

*Geology of the Columbia Plateau and Steptoe Butte*, by K.L. Othberg: Architecture Senior Studio, University of Idaho, March.

*Glacial Geology of the Cabinet Gorge Dam Area, Idaho*, by R.M. Breckenridge: Ice Age Floods Institute and Avista Corporation, June.

*Ground-Water Protection in the Pocatello-Chubbuck-Fort Hall Area: A Parallel Approach to the State Source Water Assessment Process*, by J.A. Welhan: Intermountain Conference on the Environment, Pocatello, 1999.

*History of Mining in Idaho*, by E.H. Bennett: Lewis-Clark State College, Lewiston, November (E.H. Bennett).

*History of the Idaho Continental Mine, Boundary County, Idaho*, by V.E. Mitchell: Idaho Geological Survey unpublished report, 1999, 112 p.

*Idaho Geological Survey's Coeur d'Alene STATEMAP Products*, by R.M. Breckenridge: Report for National Geological Mapping Program Highlights, U.S. Geological Survey, 2 p., June.

*Idaho Geological Survey's Sun Valley STATEMAP Program*, by R.M. Breckenridge and K.L. Othberg: Blaine County Project Impact Steering Committee, Hailey, May.

*Idaho Geology and Seismic Risk*, by V.S. Gillerman: Soils and Geology Workshop, Idaho Chapter, International Conference of Building Officials, Nampa, January.

*Idaho Is Earthquake Country*, by K.L. Othberg and R.M. Breckenridge: Ada County Project Impact Brochure, 2000.

*Idaho Landslide Inventory Report, Phase II, Database Design*, by L.S. Stanford, G.W. Adema, and R.M. Breckenridge: Idaho Bureau of Disaster Services Report, January, 6 p.

*Idaho Update—Western States Seismic Policy Council Annual Report*, by R.M. Breckenridge and S. Weiser: Santa Fe, New Mexico, September.

*Interesting Rocks, Minerals, and Volcanoes*, by B. Bonnicksen and M.M. Godchaux: McSorley School Second Grade, Lewiston, May.

*Landslides in the Little Salmon River Corridor, Idaho—Pilot Study*, by G. Adema, L.S. Stanford, and R.M. Breckenridge: Project Report for Idaho Bureau of Disaster Services, Digital database and ArcView presentation, December.

*Miocene and Younger Faults in Idaho*, by R.M. Breckenridge, G.W. Adema, R.S. Lewis, D.W. Weisz, and J.S. Freed: Geological Society of America Rocky Mountain Section Meeting, Missoula, Montana, April.

*Morphology of Inflated Pahoehoe Lavas and Spatial Architecture of Their Porous and Permeable Zones, Eastern Snake River Plain, Idaho*, by J.A. Welhan, C.M. Johannesen, K.S. Reeves, T.M. Clemo, J.A. Glover, and K. Bosworth: Idaho Geological Survey unpublished report, 2000.

*National Park Service Inventory of Idaho Ice-Age Flood Sites in Idaho*, by R.M. Breckenridge: Ice-Age Floods Institute, Spokane, Washington, May.

*The Nature of Explosive Volcanism*, by M.M. Godchaux and B. Bonnicksen: Estacion Regional Del

Centro, Instituto De Geologia, Universidad Nacional Autonoma De Mexico (UNAM), Queretaro, Mexico, November.

*Origin and Evolution of the Snake River Plain, Idaho, U.S.A.*, by B. Bonnicksen and M.M. Godchaux: Estacion Regional Del Centro, Instituto De Geologia, Universidad Nacional Autonoma De Mexico (UNAM), Queretaro, Mexico, November.

*Overview and Synthesis of Lithologic Controls on Aquifer Heterogeneity in the Eastern Snake River Plain, Idaho*, by J.A. Welhan, C.M. Johannesen, J.A. Glover, L.L. Davis, and K.S. Reeves: Idaho Geological Survey unpublished report, 2000.

*Phenomena Produced by High-Temperature Explosive Silicic Volcanism As Contrasted to Features Occurring in Rhyolite Lava Flows, With Examples From the Snake River Plain, Idaho, U.S.A.*, by B. Bonnicksen and M.M. Godchaux: IAVCEI Commission on Explosive Volcanism Workshop, United Kingdom, July.

*Progress Report on Geologic Mapping and Belt Stratigraphy of the Coeur d'Alene Quadrangle, Idaho*, by R.S. Lewis: Belt Association session, Northwest Mining Association Annual Meeting, Spokane, December.

*Recommendations for TCE Plume Action*, by J. Welhan, J. Light, F. Ostler, F. Mullican, T. Hepworth, S. Smart, and D. Dawson: City of Pocatello, Portneuf Ground Water Forum, July, 13 p.

*Rocks, Ruins, and Eclipse*, by V.S. Gillerman: Graduate Seminar, Department of Geosciences, Boise State University, Boise, September; Boise Section of the Society for Mining, Metallurgy, and Exploration, Inc.(SME), Boise, January; Idaho Museum of Mining and Geology Lecture Series, Boise, March.

*Seismic Zones and Building Codes: An Exercise in Rapid Visual Screening of Buildings in Sandpoint, Idaho*, by S. Weiser and R.M. Breckenridge: Seventh Annual Idaho Earthquake Education Workshop Workbook, 1999, 24 p.

*Simulating Basalt Lava Flows Using a Structure Imitation Approach*, by T.M. Clemo and J.A. Welhan, in L.R. Bentley, ed., Proceedings of the XIII International Conference on Computational Methods in Water Resources, Calgary, Canada, 2000.

*Site Inspection Report for the Abandoned and Inactive Mines in Idaho on U.S. Bureau of Land Management Property in the Hailey-Bellevue Area: Bullion Gulch, Hailey-Bellevue Area, Blaine County, Idaho*, by V.S. Gillerman and F.S. Griggs: Idaho Geological Survey unpublished report, 2000, 78 p.

*Site Inspection Report for the Abandoned and Inactive Mines in Idaho on U.S. Bureau of Land Management Property in the Hailey-Bellevue Area: Upper Bullion Gulch, Hailey-Bellevue Area, Blaine County, Idaho*, by V.S. Gillerman and F.S. Griggs: Idaho Geological Survey unpublished report, 2000, 48 p.

*Site Inspection Report for the Abandoned and Inactive Mines in Idaho on U.S. Forest Service Lands (Region 1), Idaho Panhandle National Forest: Volume VIII: Bonners Ferry Ranger District, Boundary County, Idaho*, by E.H. Bennett, J.D. Kauffman, and V.E. Mitchell: Idaho Geological Survey unpublished report, 2000, 262 p., 2 videotapes.

*Site Inspection Report for the Abandoned and Inactive Mines in Idaho on U.S. Forest Service Lands (Region 1), Idaho Panhandle National Forest: Volume V (Section C): Coeur d'Alene River Drainage Surrounding the Coeur d'Alene Mining District (Excluding the Prichard Creek and Eagle Creek Drainages) [secondary properties]*, by J.A. Kauffman, E.H. Bennett, and V.E. Mitchell, 1999: Idaho Geological Survey unpublished report, 225 p., 1 videotape.

*Site Inspection Report for the Abandoned and Inactive Mines in Idaho on U.S. Forest Service Lands (Region 1), Idaho Panhandle National Forest: Volume V (Section D): Coeur d'Alene River Drainage Surrounding the Coeur d'Alene Mining District (Excluding the Prichard Creek and Eagle Creek Drainages) [secondary properties]*, by J.A. Kauffman, E.H. Bennett, and V.E. Mitchell, 1999: Idaho Geological Survey unpublished report, 276 p., 1 videotape.

*Site Inspection Report for the Abandoned and Inactive Mines in Idaho on U.S. Forest Service Lands (Region 1), Idaho Panhandle National Forest: Volume VI: St. Joe River Drainage*, by J.A. Kauffman, E.H. Bennett, and V.E. Mitchell, 1999: Idaho Geological Survey unpublished report, 399 p., 3 videotapes.

*Site Inspection Report for the Abandoned and Inactive Mines in Idaho on U.S. Forest Service Lands (Region 1), Idaho Panhandle National Forest: Volume VII: Priest Lake Ranger District, Bonner and Boundary Counties, Idaho*, by J.A. Kauffman, E.H. Bennett, and V.E. Mitchell: Idaho Geological Survey unpublished report, 2000, 283 p., 2 videotapes.

*Site Inspection Report for the Abandoned and Inactive Mines in Southern Idaho, Owyhee County: Volume I: Silver City-War Eagle Mountain Area, Owyhee County, Idaho*, by J.A. Kauffman, E.H. Bennett, and V.E. Mitchell: Idaho Geological Survey unpublished report, 2000, 415 p., 2½ videotapes.

*Stochastic Simulation of Aquifer Heterogeneity in a Layered Basalt Aquifer System, Eastern Snake River Plain, Idaho*, by J.A. Welhan, T.M. Clemo, and E.L. Gego: Idaho Geological Survey unpublished report, 2000.

*Surficial Geologic Map of the Clarkston Quadrangle, Nez Perce County, Idaho*, by K.L. Othberg, R.M. Breckenridge, and D.W. Weisz: Idaho Geological Survey unpublished map, scale 1:24,000, April.

*Surficial Geologic Map of the Harrison Quadrangle, Kootenai County, Idaho*, by R.M. Breckenridge and K.L. Othberg: Idaho Geological Survey unpublished map, scale 1:24,000, April.

*Surficial Geologic Map of the Lapwai Quadrangle, Nez Perce County, Idaho*, by K.L. Othberg, R.M. Breckenridge, and D.W. Weisz: Idaho Geological Survey unpublished map, scale 1:24,000, April.

*Surficial Geologic Map of the Lewiston Orchards North Quadrangle, Nez Perce County, Idaho*, by K.L. Othberg, R.M. Breckenridge, and D.W. Weisz: Idaho Geological Survey unpublished map, scale 1:24,000, April.

*Surficial Geologic Map of the Mount Coeur d'Alene Quadrangle, Kootenai County, Idaho*, by R.M. Breckenridge and K.L. Othberg: Idaho Geological Survey unpublished map, scale 1:24,000, April.

*Surficial Geologic Map of the Rockford Bay Quadrangle, Kootenai County, Idaho*, by R.M. Breckenridge and K.L. Othberg: Idaho Geological Survey unpublished map, scale 1:24,000, April.

*Surficial Geologic Map of the Worley Quadrangle, Kootenai County, Idaho*, by R.M. Breckenridge and

K.L. Othberg: Idaho Geological Survey unpublished map, scale 1:24,000, April.

*Thrift and Common Sense: Ground Water Protection Vs. Remediation in the Lower Portneuf River Valley*, by J.A. Welhan: The Gem, Idaho Rural Water Users Association, Issue 22, p. 11-12, 1999.

*An Update of Digital Geologic Mapping Projects in the Region*, by R.S. Lewis: Intermountain Forest Tree Nutrition Cooperative Annual Meeting, Moscow, April.

*Water Balance and Total Pumping Capacity of the Lower Portneuf River Valley Aquifer*, by J.A. Welhan: City of Pocatello Build-out Analysis Committee, 9 p., January.

## **Professional Activities**

Advisory board meeting, Idaho Geological Survey, Boise, December (E.H. Bennett, R.M. Breckenridge, C.D. Fullerton, K.L. Othberg, V.S. Gillerman, J.A. Welhan).

Annual Conference of Western States Seismic Policy Council, Sante Fe, New Mexico, September (R.M. Breckenridge).

Association of American State Geologists and U.S. Geological Survey cluster meeting, Santa Fe, New Mexico, September (E.H. Bennett, R.M. Breckenridge).

Association of American State Geologists Annual Meeting, St. Louis, Missouri, June (E.H. Bennett).

Association of American State Geologists liaison committee meetings, Washington, D.C., September and March (E.H. Bennett).

Boise Section meetings, Society for Mining, Metallurgy, and Exploration, Inc. (V.S. Gillerman).

Business meeting, Idaho Earth Science Teachers Association, Coeur d'Alene, October (R.M. Breckenridge, C.D. Fullerton, K.L. Othberg, T.C. Walker).

Business meeting, Idaho Earth Science Teachers Association, Farragut State Park, July (R.M. Breckenridge, C.D. Fullerton, K.L. Othberg, T.C. Walker).

Business meeting, Idaho Earth Science Teachers Association, Boise, March (R.M. Breckenridge, V.S. Gillerman, K.L. Othberg, T.C. Walker).

Business meeting, Northwest Scientific Association Trustee's fall meeting, March (K.L. Othberg).

Chair, Portneuf Ground Water Forum, City of Pocatello (J.A. Welhan).

Change in Employment Compensation Committee meeting, Idaho Legislature, January, Boise (E.H. Bennett).

Community Appreciation Days, Bear Track Mine, Salmon, July (E.H. Bennett).

Convener and Chair, Highway Pond Ground Water Protection Working Group, Pocatello, (J.A. Welhan).

Convener and Co-Chair, Sensitive Resource Recategorization Working Group, Pocatello, (J.A. Welhan).

Coordinator at Idaho State University for the Idaho Geological Survey's contribution to the digital map compilation of the eastern Snake River Plain mapping project (J.A. Welhan).

Coordinator, cluster meeting for development of UI-ISU-BSU research proposal submission to DOE-EPSCOR for hydrologic research, eastern Snake River Plain (J.A. Welhan).

Co-supervisor, Digital Geologic Mapping/GIS Laboratory, Idaho State University's Geology Department and Idaho Geological Survey, Pocatello (J.A. Welhan).

Councilor, Society of Economic Geologists (V.S. Gillerman).

Delegate, state geology, Western States Seismic Policy Council (R.M. Breckenridge).

Director, paleomagnetism laboratory, Idaho Geological Survey-College of Mines and Earth Resources (K.L. Othberg).

Earth Science Week Proclamation ceremony, Office of Gov. Dirk Kempthorne, October (V.S. Gillerman, K.L. Othberg).

Exhibitor, Boise Gem and Mineral Show, Boise, February (V.S. Gillerman).

Fellow, Society of Economic Geologists (B. Bonnicksen, V.S. Gillerman).

Fellow, Geological Society of America (B. Bonnicksen).

Field trip co-leaders, Geology of the Deary area, Deary Cub Scout Troop, October, (B. Bonnicksen, M.M. Godchaux).

Field trip, Lewiston basin and vicinity, Earth Science Week, October (Moscow staff).

Field trip, Los Alamos National Laboratory, Western States Seismic Policy Council, September (R.M. Breckenridge).

Field trip, teacher workshop preview, Sawtooth Valley, June (R.M. Breckenridge, K.L. Othberg, T.C. Walker).

Field trip, Western Idaho suture zone, Hells Canyon Geological Society, July (R.S. Lewis).

Geologic history of Farragut State Park, talk and display, May (R.M. Breckenridge, D.W. Weisz).

Geological Society of America Annual Meeting, Denver, Colorado, October (V.S. Gillerman, R.S. Lewis).

Geological Society of America, Rocky Mountain Section Meeting, Missoula, Montana, April (G.W. Adema, R.M. Breckenridge, J.S. Freed, R.S. Lewis, K.L. Othberg, T.C. Walker).

Geological Society of Nevada Symposium: Geology and ore deposits 2000: The Great Basin and Beyond, Reno, Nevada, May (V.S. Gillerman).

Guest lecturer, courses in isotope geochemistry, hydrogeology, water system engineering, and ecology, Idaho State University (J.A. Welhan).

Ice Age Floods Institute Meeting, Spokane and Moses Lake, Washington, October, (R.M. Breckenridge).

Ice Age Floods Task Force Regional Meeting, Farragut State Park, February and June (R.M. Breckenridge).

Idaho Earth Science Teachers Association winter meeting and Teachers' Curriculum Project Presentations, Boise, March (R.M. Breckenridge, V.S. Gillerman, K.L. Othberg, T.C. Walker).

Idaho Association of Professional Geologists meetings, Boise (V.S. Gillerman).

Idaho Department of Lands Minerals Workshop, Boise, December (V.S. Gillerman).

Idaho Earth Science Teachers Association annual newsletter, June (B.D. Fullerton, C.D. Fullerton, K.L. Othberg, T.C. Walker).

Idaho Earth Science Teachers Association, compressed video meeting, December (R.M. Breckenridge, C.D. Fullerton, K.L. Othberg, T.C. Walker).

Idaho Environmental Forum meetings, Boise (V.S. Gillerman).

Idaho Geographic Information Advisory Committee meeting, Boise, November (L.R. Stanford).

Idaho Ground-Water Workshop, Boise, September (V.S. Gillerman).

Idaho Mining Association Congressional Dinner, Washington, D.C., May (E.H. Bennett).

Idaho Science Teachers Association and Idaho Earth Science Teachers Association annual conference, Coeur d'Alene, October (R.M. Breckenridge, C.D. Fullerton, K.L. Othberg, T.C. Walker).

Instructional assistant, graduate-student project on water-well logs in the Genesee area, University of Idaho (D.W. Weisz).

Instructional assistant, senior thesis project on paleomagnetism of basalt, University of Idaho (D.W. Weisz).

Instructor, earth science, Potlatch Jr.-Sr. High School, August-June (T.C. Walker).

Instructor, Geology 405, earth science education issues and activities, University of Idaho, spring (T.C. Walker).

Instructors, Geology 504, geology and geologic hazards, northern Idaho, July (R.M. Breckenridge, K.L. Othberg, T.C. Walker).

Joint Finance-Appropriations Committee meeting, Idaho Legislature, February, Boise (E.H. Bennett).

Leader, field trip, Clark Fork and Cabinet Gorge, Avista Corporation, April (R.M. Breckenridge).

Leader, field trip, Geology of the North Fork of the Coeur d'Alene River area, Idaho Geological Survey and Intermountain Tree Nutrition Cooperative, August (R.S. Lewis).

Leader, field trip, Lucky Friday Mine, University of Idaho's President Hoover and Provost Pitcher, Wallace, October (E.H. Bennett).

Leader, field trip, Ross Elementary School, Kuna and Boise, May (V.S. Gillerman).

Leader, field trip, Snake River geology, Walla Walla Community College, Clarkston, Washington, May (E.H. Bennett).

Leader, field trip, Silver Valley, Coeur d'Alene Chamber of Commerce, October (E.H. Bennett).

Leader, field trip, Stibnite Mining District, Idaho Museum of Mining and Geology, July (V.S. Gillerman).

Leader, field trip to Steptoe Butte, Architecture Senior Studio, University of Idaho, April (K.L. Othberg).

Leader, field trips, Workshop for Teachers, bedrock geology of northern Idaho, July (R.S. Lewis).

Leader, field trips, Workshop for Teachers, introductory geology and soils of northern Idaho, July (K.L. Othberg, T.C. Walker).

Leader, field trips, Workshop for Teachers, Lake Missoula Flood features on the Rathdrum Prairie, July (R.M. Breckenridge).

Leaders, field trip, Lewiston basin and vicinity, Moscow staff, October (B. Bonnicksen, R.M. Breckenridge, M.M. Godchaux, R.S. Lewis, K.L. Othberg).

Liaison, Idaho, National Earth Science Teachers Association, 1988-present (K.L. Othberg).

Member, Alpine Club of Canada (R.M. Breckenridge).

Member, Basin and Range Committee, Western States Seismic Policy Council (R.M. Breckenridge).

Member, Blackfoot storm-water grant technical advisory committee (J.A. Welhan).

Member, Commission on Explosive Volcanism of the International Association of Volcanology and Chemistry of the Earth's Interior (B. Bonnicksen).

Member, Earthquake Engineering Research Institute (R.M. Breckenridge).

Member, Earth Science Editors Association (R.C. Stewart).

Member, Geological Society of Nevada (V.S. Gillerman).

Member, Ground Water Guardian Committee, Portneuf Chapter (J.A. Welhan).

Member, Hazardous Waste Management Council, Idaho State University (J.A. Welhan).

Member, Ice Age Floods Institute (R.M. Breckenridge).

Member, Idaho Science Teachers Association (T.C. Walker).

Member, International Association of Volcanology and Chemistry of the Earth's Interior (B. Bonnicksen).

Member, liaison committee, Association of American State Geologists (E.H. Bennett).

Member, National Groundwater Foundation (J.A. Welhan).

Member, National Science Teachers Association (T.C. Walker).

Member, North American Digital Geologic Map Data Model steering committee meetings, Lexington, Kentucky, May; Denver, Colorado, October (L.R. Stanford).

Member, Northwest Scientific Association (K.L. Othberg).

Member, Pocatello storm-water master plan technical advisory committee (J.A. Welhan).

Member, Program Review Committee, Geography/Geology Program Review, North Idaho College, June (K.L. Othberg).

Member, Science language technical team, North American geologic map data model project (R.S. Lewis).

Member, Seismological Society of America (R.M. Breckenridge).

Member, Sigma Xi (V.S. Gillerman).

Member, Society for Mining, Metallurgy, and Exploration, Inc. (V.S. Gillerman).

Member, Society for Sedimentary Geology (V.E. Mitchell).

Member, Technical Committee, Treasure Valley Hydrologic Modeling Project (K.L. Othberg).

Member, University of Idaho Employee Recognition Committee, 1999-2000 (K.L. Othberg).

Member, Western States Seismic Policy Council (R.M. Breckenridge).

Members, American Geophysical Union (T.C. Walker, J.A. Welhan).

Members, American Quaternary Association (R.M. Breckenridge, K.L. Othberg).

Members, EDMAP review board, Idaho Geological Survey (R.M. Breckenridge, K.L. Othberg).

Members, Geological Society of America (E.H. Bennett, V.S. Gillerman, R.S. Lewis, V.E. Mitchell, K.L. Othberg, T.C. Walker).

Members, Idaho Earth Science Teachers Association (R.M. Breckenridge, C.D. Fullerton, K.L. Othberg,

T.C. Walker).

Members, National Association of Geology Teachers (K.L. Othberg, T.C. Walker).

Members, National Earth Science Teachers Association (K.L. Othberg, T.C. Walker).

Members, Northwest Mining Association (E.H. Bennett, V.S. Gillerman, R.S. Lewis).

Mentor, undergraduate program, Association of American State Geologists-National Science Foundation (R.S. Lewis).

National Mining Association Annual Meeting, St. Louis, Missouri, October (E.H. Bennett).

National Park Service Floods Study, Spokane and Moses Lake, Washington, October (R.M. Breckenridge).

Nevada Geological Society Gold Meeting, Sparks, Nevada, May (E.H. Bennett).

Northwest Mining Association 105th Annual Meeting, Spokane, Washington, December (E.H. Bennett, R.M. Breckenridge, C.L. Chaney, V.S. Gillerman, R.S. Lewis, K.L. Othberg).

Oregon Board of Geologists, geologist registration (R.M. Breckenridge).

Organizer, Northwest Scientific Association annual meeting, University of Idaho, March (K.L. Othberg).

Organizers and instructors, workshop for teachers, geology and geologic hazards of northern Idaho, July (R.M. Breckenridge, R.S. Lewis, K.L. Othberg, T.C. Walker).

Participants, geologic field trip to silicic volcanic centers in estados de San Luis Potosi, Guanajuato, Queretaro, and Mexico, led by UNAM staff members from Esstacion Regional Del Centro, Queretaro, November, (B. Bonnichsen, M.M. Godchaux).

Participants, IAVCEI Commission on Explosive Volcanism Field Workshop, July 7-18, Inside Silicic Calderas (Snowdon, Scaffell, and Glencoe, U.K.), Interactions of Caldera Development, Tectonism and Hydrovolcanism (B. Bonnichsen, M.M. Godchaux).

President-elect, Idaho Earth Science Teachers Association, 1999-2001 (T.C. Walker).

President, Boise Section Society for Mining, Metallurgy, and Exploration, Inc. (V.S. Gillerman).

Recipients, Outstanding Supporter of Earth Science Education award, Idaho Earth Science Teachers Association, October (R.M. Breckenridge, C.D. Fullerton).

Representative and disaster coordinator, Bureau of Disaster Services (V.S. Gillerman).

Representative, Basin and Range Earthquake Clearinghouse Committee, January and February (R.M. Breckenridge).

Representative, Boise State University Department of Geosciences (V.S. Gillerman).

Representative, Department of Lands Mining Advisory Committee (V.S. Gillerman).

Representative, Idaho Department of Water Resources Water Planning Coordination Committee (V.S. Gillerman).

Representative, Idaho State University Department of Geology (J.A. Welhan).

Representative, Technical Advisory Committee, Treasure Valley Hydrologic Project, Boise (V.S. Gillerman).

Reviewer, Rheomorphism of welded rocks from the Las Canadas caldera (Tenerife, Canary Islands), by Carles Soriano and others, for the Geological Society of America Bulletin (B. Bonnichsen).

Secretary, Belt Association Board of Directors (R.S. Lewis).

Structural geology of the Lewiston basin discussion group, University of Idaho (B. Bonnichsen, R.M. Breckenridge, R.S. Lewis, K.L. Othberg).

Technical Advisor, Ice age Floods Institute (R.M. Breckenridge).

Trustee, Northwest Mining Association (E.H. Bennett).

Trustee, Northwest Scientific Association, 1997-2000 (K.L. Othberg).

University of Idaho research planning meetings, March (R.M. Breckenridge).

U.S. Army Corps of Engineers RAMS meeting, Reno, Nevada, November (E.H. Bennett).

Workshop, Digital Mapping Techniques, 2000, Lexington, Kentucky, May (J.S. Freed, L.R. Stanford).

Workshop for teachers, geology and geologic hazards of northern Idaho, July (R.M. Breckenridge, C.D. Fullerton, R.S. Lewis, K.L. Othberg, T.C. Walker).

## **Media Interviews, Appearances, and Articles**

Appearance in “Supervolcanoes”: BBC Horizon Series; television documentary released spring 2000 (B. Bonnichsen).

Appearance in “The Future of Mining”: Idaho Public Television, April (E.H. Bennett).

Appearances in “Volcanoes”: Idaho Public Television "Dialogue for Kids" Series, broadcast February 28 (B. Bonnichsen, M.M. Godchaux).

Telephone interview for KBOI TV (Channel 4, Boise) regarding the 20th anniversary of the Mount St. Helens eruption, May 18 (B. Bonnichsen).

## **Graduate Thesis Committees**

Rachel Ellisor, M.S., Geology, University of Idaho (B. Bonnichsen).

Gwen Gerber, M.S., Geology, Idaho State University (J.A. Welhan).

John Glover, M.S., Geology, Idaho State University (J.A. Welhan).

Paul Hitchcock, M.S., Geology, Idaho State University (J.A. Welhan).

Chad Johannesen, M.S., Geology, Idaho State University (J.A. Welhan).

Joel Murray, M.S., Environmental Science, University of Idaho (K.L. Othberg).

Jerry Potter, M.S., Geology, University of Idaho (B. Bonnichsen).

Christina Russell, Ph.D., Geology, University of Idaho (B. Bonnichsen).

Andy Smith, M.S., Geology, Idaho State University (J.A. Welhan).

Ron Warren, M.S., Environmental Science, University of Idaho (K.L. Othberg).

Doug Whitmire, M.S., Geology, Idaho State University (J.A. Welhan).

Cathryn Williamson, M.A., Anthropology, University of Idaho (K.L. Othberg).

## **Grants and Contracts**

*Digital Atlas of Idaho*: R.S. Lewis (Idaho State Board of Education, July 1999-June 2000, \$4,900).

*Eastern Snake River Plain Geological Mapping Initiative, Evaluation of the Status of Geological Mapping of Silicic Volcanic Rocks in the Ashton and Dubois 30' X 60' Quadrangles, Eastern Idaho*: B. Bonnichsen (Bechtel Corporation, June-September 2000, \$35,000).

*Headwaters Project Involving Geologic Mapping and Digital Compilation of the Coeur D'Alene and Idaho City 30' by 60' Quadrangles, Idaho*: R.S. Lewis (U.S. Geological Survey, July 1999-June 2000, \$29,000).

*Idaho Landslide Inventory Database*: R.M. Breckenridge, (Idaho Bureau of Disaster Services, April-September 2000, \$9,999).

*Idaho Source Water Assessment Wellhead Delineation*: J.A. Welhan (Idaho Department of Environmental Quality, \$10,400).

*Investigation of Abandoned/Inactive Mine Sites, continuation*: V.S. Gillerman (Bureau of Land Management, October 1998-September 2000, \$20,000).

*Investigation of Abandoned/Inactive Mine Sites, continuation*: V.S. Gillerman (Bureau of Land

Management, October 1999-December 2001, \$40,000).

*Investigation of Abandoned/Inactive Mine Sites*: E.H. Bennett (U.S. Forest Service, June 1999-June 2000, \$275,129).

*Investigation of Abandoned/Inactive Mine Sites*: E.H. Bennett (U.S. Environmental Protection Agency, May 1999-September 2000, \$17,719).

*Investigation of Abandoned/Inactive Mine Sites*: E.H. Bennett (Idaho Department of Lands, May 1999-January 2001, \$20,000).

*Mitigation of Idaho Geologic Hazards, Earthquake Education Workshop*: R.M. Breckenridge and K.L. Othberg (Idaho Bureau of Disaster Services, June 1999-March 2000, \$47,900).

*Mitigation of Idaho Geologic Hazards, Earthquake Education Workshop*: R.M. Breckenridge and K.L. Othberg (Idaho Bureau of Disaster Services, April-September 2000, \$40,000).

*Portneuf Valley GIS Data Project-Phase II*: J.A. Welhan (City of Pocatello, July 1999-January 2000, \$65,900).

*Potlatch Basalt Mapping*: R.S. Lewis (Idaho Department of Lands, April 2000-March 2001, \$5,000).

*Potlatch Basalt Mapping*: R.S. Lewis (Potlatch Corporation, January 2000-March 2001, \$5,000).

*Project Impact Kamiah Flood Study*: R.M. Breckenridge (Idaho Bureau of Disaster Services, \$869).

*STATEMAP Project, Urban Geologic Mapping in Kootenai County and Lewiston, and Digital Compilation of the Coeur d'Alene 30' X 60' Quadrangle*: K.L. Othberg, R.M. Breckenridge, B. Bonnicksen, and R.S. Lewis (U.S. Geological Survey, May 1999-April 2000, \$108,265).

*STATEMAP Project, Urban Geologic Mapping in the Lewiston Area, the Sun Valley Urban Corridor, the Melba Area, and Digital Compilation of the Potlatch 30' X 60' Quadrangle*: K.L. Othberg, R.M. Breckenridge, B. Bonnicksen, and R.S. Lewis (U.S. Geological Survey, May 2000-April 2001, \$122,869).