

## **Full Name and Title: Dr. Spencer H Wood**

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## **PROFILE**

Geomorphologist\geologist with extensive research experience in the US and Asia. Current research interests include: 1) the nature of surficial deposits, soils and vegetation – with emphasis on subtropical rainforest ecosystems; 2) Documenting neotectonics, geomorphic evolution and soil chronosequences of northern Thailand; 3) Geophysics and geophysical log expression of lacustrine sedimentary facies and determining continuity and extent of sand bodies important as aquifers and reservoir rocks in the western Snake River Plain; 4) Geologic mapping of southern Idaho using facies mapping, Ar/Ar dating and tephrochronology. Hydrogeology and geothermal resources of southern Idaho.

## **EDUCATION**

1975 California Institute of Technology - Ph.D., Geology

1970 California Institute of Technology - M.S., Geophysics

1964 Colorado School of Mines - Geophysical Engineer

## **EXPERIENCE**

1978- present: Assistant, Associate, Full and Emeritus Professor, Geosciences Department, Boise State University, Idaho

1994-95 and 2005 Visiting Professor: Geological Sciences, Chiang Mai University, Thailand

1978-83 Project Chief. USGS-Engineering Geology/Tectonics Branch (Alaska & Yukon)

1980 Research Geologist, USGS, Mt. St. Helens Observatory Vancouver, Washington

1976-77 Research Geologist--National Center for Earthquake Research, USGS-Menlo Park, California

1976 Visiting Assistant Professor, Quaternary geology, University of Oregon.

1974-76 Instructor in geophysics and geology, Occidental College, Los Angeles, California

1968-74 NSF traineeship, teaching assistant, Geological & Planetary Sciences, Caltech, California

1965-68 Geophysicist, Mobil Oil of Canada, Ltd./Gelsenberg, A.G. - Tripoli, Libya

1965 Jr. Geophysicist, Mobil Producing Netherlands, The Hague, Netherlands

1964-65 Seismological Engineer, Mobil Oil Geophysical Services, Dallas, Texas

## **PEER-REVIEWED JOURNALS AND MONOGRAPHS**

Wood, S.H. and Ziegler, A.D. 2008. Floodplain sediment from a 100-year-recurrence flood in 2005 of the Ping River in northern Thailand. **Hydrology and Earth System Sciences** 12, p. 959-973.

Wood, S.H., Ziegler, A.D., and Bundarnsin, T., 2008. Floodplain deposits, channel changes and riverbank stratigraphy of the Mekong River area at the 14<sup>th</sup>-Century city of Chiang Saen, Northern Thailand. **Geomorphology**, 101, p. 510-523.

McNamara, J.P., Ziegler, A.D., Wood, S.H., and Vogler, J.B., 2006. Channel head locations with respect to geomorphologic thresholds derived from a digital elevation model: A case from northern Thailand. **Forest Ecology and Management**, 224 (1-2), p. 147-156

Committee on Superfund Site Assessment and Remediation in the Coeur d'Alene River Basin (National Research Council), 2005. **Superfund and Mining Megasites: Lessons from the Coeur d'Alene Basin**. Washington, D.C., National Academies Press, 382 p.

- Fenton, C.H., Charusiri, P, and Wood, S.H., 2003, Recent paleoseismic investigations in northern and western Thailand: **Annals of Geophysics**, v. 46, p. 957-981.
- Wood, S.H., and Clemens, D.M., 2002. Geologic and tectonic history of the western Snake River Plain, Oregon and Idaho: *in* Bonnicksen, Bill, White, C.M., and McCurry, M. (eds.) , Tectonic and magmatic evolution of the Snake River Plain Volcanic Province. **Idaho Geological Survey Bulletin** 30, 69-103.
- Meyer, G.A., Pierce, J.L., Wood, S.H., and Jull, A. J. T., 2001, Fire, storms, and erosional events in the Idaho batholith: **Hydrological Processes**, v. 15, p. 3025-3038.
- Wood, S.H., 1994, Seismic expression and significance of a lacustrine delta in Neogene deposits of the western Snake River Plain, Idaho: **American Association of Petroleum Geologists Bulletin**, v. 78, p. 102-121.
- Clemens, D.M. and Wood, S.H., 1993, Late Cenozoic volcanic stratigraphy and geochronology of the Mount Bennett Hills, central Snake River Plain, Idaho: **Isochron/ West**, v.60, p. 3-14.
- \_\_\_\_\_, 1993, Timing of volcanism, sedimentation, and tectonics of the Boise foothills, northeastern margin of the western Snake River Plain, Ada County, Idaho: **Isochron/West**, v.59, p. 3-10.
- Wood, S.H., Doukas, M.P., Shipley, S., Waitt, R.B., Jr., Sarna-Wojcicki, A.J., Vallance, J.W., and Eggers, A., (in press), The July 22, 1980 eruption of Mount St. Helens: Characteristics of the eruption and airfall tephra: **USGS Professional Paper 1251**, 20p.
- Wood, S.H., 1989, Silicic volcanic rocks and structure of the western Mount Bennett Hills and adjacent Snake River Plain, Idaho: *in* Ruebelmann, K.L. (ed.), Snake River Plain-Yellowstone volcanic province, **Guidebook T305, International Geological Congress**, American Geophysical Union, Washington D. C., p. 69-77.
- Wood, S.H. and Burnham, W.L., 1987, Geologic framework of the Boise Warm Springs geothermal area, Idaho: *in* Buess, S.S., ed., **Geological Society of America, Centennial Field Guide**, v.2, p.117-122.
- Wood, S.H., Wurts, C., Lane, T., Ballenger, N., Shaleen, M., Totorica, D., 1985, The Borah Peak, Idaho earthquake of October 28, 1983 - Hydrologic effects: **Earthquake Spectra**, v.2, p.127-150.
- Castle, R.O., Elliott, M.R., Church, J.P., and Wood, S.H., 1984, The evolution of the southern California uplift, 1955 through 1976: **USGS Professional Paper 1342**, 136p., 16 plates.
- Sarna-Wojcicki, A.M., Shipley, S., Waitt, R.B., Dzurizin, D., and Wood, S.H., 1981, Areal distribution, thickness, mass, volume, and grain-size of air-fall ash from the six major eruptions of 1980, *in* Lipman, P.W., and Mullineaux, D.R., eds. The 1980 eruptions of Mount St. Helens, Washington: **USGS Professional Paper 1250**, p.577-600.
- Waitt, R.B., Hansen, V.L., Sarna-Wojcicki, A.M., and Wood, S.H., 1981, Proximal air-fall deposits of eruptions between May 18 and August 7, 1980, stratigraphy and field sedimentology: *in* Lipman, P.W., and Mullineaux, D.R., eds. The 1980 eruptions of Mount St. Helens, Washington: **USGS Professional Paper 1250**, p.617-628.
- Wilson, M.E., and Wood, S.H., 1980, Tectonic tilt rates derived from lake level measurements, Salton Sea, California: **Science**, v. 207, p. 183-186.
- Wood, S. H., and Elliot, M.R., 1979, Early 20th-Century uplift of the northern Peninsular Ranges province of southern California: **Tectonophysics**, 52, 249-265.
- Wood, S.H., 1977, Distribution, correlation, and radiocarbon dating of late Holocene tephra, Mono and Inyo Craters, eastern California: **Geological Society of America Bulletin**, v. 88, p. 89-95.

#### **RECENT ABSTRACTS OF MEETING PRESENTATIONS (last 5 years)**

- Wood, S.H. and Ziegler, A.D. 2008. Floodplain sediment from a 30-year-recurrence flood in 2005 of the Ping River in northern Thailand. American Geophysical Union, Annual meeting, San Francisco.
- Wood, S.H, and Squires, Ed., 2007. Geology and hydrogeology of Boise, Idaho (abs). American Association for the Advancement of Science (Annual meeting, Pacific section, Boise).

- Wood, S.H., Ziegler, A.D., and Bundarnsin, T., 2005. Riverbank stratigraphy and channel changes, Mekong River, Chiang Saen, Northern Thailand (abs). Abstracts Volume, 6<sup>th</sup> International Conference on Geomorphology, Zaragoza, Spain, September, 2005. p. 479.
- Rothwell, E.L., and Wood, S.H., 2004, Characterization of gravel bars of the Mekong River near the Golden Triangle of northern Thailand: GSA Abstracts with programs,
- Forester, C. S., Wood, S.H., and Nash, B.P., 2004, Geologic mapping and tephrochronology of sediments associated with the Miocene Weiser Basalt and Payette Formation in Holland Gulch, northwestern margin of the western Snake River Plain, Idaho. Geological Society of America Abstracts with programs (Cordilleran/Rocky Mountain section).
- Sander, K.T., and Wood, S.H., 2004. The Poison Creek Formation: A coarse fan-delta facies in the Miocene Chalk Hills Formation of the western Snake River Plain, Idaho. Geological Society of America Abstracts with programs (Cordilleran/Rocky Mountain section).
- Squires, E., Liberty, L.M., and Wood, S.H., 2003, Hydrostratigraphic characterization and Quaternary/Neogene history of Boise and Meridian, Idaho using drill-cuttings analysis, borehole geophysical logs, and high-resolution seismic images: Geological Society of America Abstracts with programs, v. 35, no. 6, p. 571.
- Wood, S.H., and Bundarnsin, T., 2003, Mekong River floodplain stratigraphy and radiocarbon dating beneath the 14th Century city of Chiang Saen, Golden Triangle of northern Thailand: Geological Society of America Abstracts with programs, v. 35, no. 6, p. 400.
- Udphuay, S., Liberty, L.M., and Wood, S.H., 2003, Outcrop-scale imaging of lacustrine delta sediments using ground-penetrating radar and seismic methods: Annual Meeting, Society of Exploration Geophysicists (Extended Abstracts Volume, Near-surface geophysics, NSG P-1), p. 1468-1471.
- Udphuay, S., Liberty, L.M., and Wood, S.H., 2003, Outcrop-scale imaging of lacustrine delta sediments using ground-penetrating radar and seismic methods: Geological Society of America Abstracts with programs, v. 35, no. 6, p. 172
- Wood, S.H., McNamara, J.P., and Ziegler, A., 2003, Channel initiation on slopes and roads in a tropical montane watershed in northern Thailand: EOS Trans. of the American Geophysical Union, 84, p. 46.
- Wood, S. H., 2003, Quaternary strike-slip faulting and basalt volcanism in northernmost Thailand and adjacent Laos (abs.): Proceedings, International Symposium on Pacific Neogene Stratigraphy, Chiang Mai University, Thailand.
- Wood, S.H., 2001, Slip rate estimate from offset streams, valley volumes, and denudation rate: Mae Chan fault, northern Thailand (abs), EOS, Transactions of the American Geophysical Union, v. 82, no. 47, Fall Meeting Supplement, p. F392.
- Wood, S.H., 2001, Mae Chan fault, northern Thailand: Offset streams and Quaternary fault activity: International Association of Seismology and Physics of the Earth's Interior. Joint Scientific Assembly, Hanoi, Vietnam.
- Liberty, L. M., Wood, S.H., and Barrash, W., 2001. Seismic reflection imaging of hydrostratigraphic facies in Boise: A tale of three scales. 71st Annual International Meeting: Society of Exploration Geophysicists (extended abstracts), pp. 1393-1396,
- Wood, S.H., Liberty, L., and Squires, E., 2000. Geophysical signatures of lacustrine facies: Experiences from Hydrogeologic Studies of temperate Neogene Lake Idaho sediments and aquifers, U.S. A., Abstract of the General Symposium, 3-1, Lacustrine Sedimentation, 31st International Geological Congress, Rio de Janeiro, Brazil, August 6 - 11, 2000.
- Wood, S.H., McNamara, J.P., and Childs, D.M., 2000, Channel Morphology and bed Material of the Riffle-pool Reach of Rio Platano Bioserve, Northeastern Honduras: a Pristine Central-American mountainous rainforest watershed (poster). American Geophysical Union, 2000 Fall Meeting .
- Smith, S. C., Northrup, C.J., and Wood, S.H., 1999, The Rush Peak fault zone, Cuddy Mountains, western Idaho: Evidence for sinistral-oblique late Quaternary movement: : Geological Society of American Abstracts with programs: Annual Meeting, Denver, Oct. 1999.
- Wood, S.H., and Meyer, G.A., 1999, Contrasting sediment transport events generated by rain on snow and convective storms on burned basins in the Idaho batholith: Geological Society of American Abstracts with programs: Annual Meeting, Denver, Oct. 1999.

## **SELECTED PROCEEDINGS, FIELD-TRIP GUIDES, REPORTS**

- Wood, S.H., Singharajwarapan, F.S., Bundarnsin, T, and Rothwell, E., 2004. Mae Sai Basin and Wiang Nong Lom: Radiocarbon dating and relation to the active strike-slip Mae Chan fault, Northern Thailand. *in* Rieb, S., Wongpornchai, P., and Chantraprasert, S. (eds.), Proceedings of the International Conference on Applied Geophysics, November, 2004, Chiang Mai, Thailand, p. 60-69.
- Wood, S.H., Liberty, L.M., Singharajwarapan, F.S., Bundarnsin, T, and Rothwell, E., 2004. Feasibility of gradient magnetometer surveys of buried brick structures at 13th Century (C.E.) Wiang Kum Kam, Chiang Mai Province, Thailand. *in* Rieb, S., Wongpornchai, P., and Chantraprasert, S. (eds.), Proceedings of the International Conference on Applied Geophysics, November, 2004, Chiang Mai, Thailand, p. 22-30.
- Wood, S.H., 2004. Geology across and under the western Snake River Plain, Idaho (Chapter 2). *in* Haller, K.M. and Wood, S.H.(eds.), Geological Field trips in southern Idaho, eastern Oregon, and Northern Nevada. U. S. Geological Survey Open-File Report 2004-1222. p. 84-107. Internet <http://pubs.usgs.gov/of/2004/1222>.
- Rothwell, E.L., and Wood, S.H. 2004. Terminal moraine remnants of the Trail Creek glacier northeast of Sun Valley, Idaho (Chapter 6). *in* Haller, K.M. and Wood, S.H. (eds.), Geological Field trips in southern Idaho, eastern Oregon, and Northern Nevada. U. S. Geological Survey Open-File Report 2004-1222. p. 78-83. Internet <http://pubs.usgs.gov/of/2004/1222>.
- Squires, E., and Wood, S.H., 2001, Stratigraphic studies of the Boise (Idaho) aquifer using borehole geophysical logs with an emphasis on facies identification of sand aquifers: Report to the Idaho Department of Water Resources (Treasure Valley Hydrologic Study), 17 p. Internet: [http://www.idwr.idaho.gov/hydrologic/info/pubs/misc/tvhp/stratigraphic\\_studies\\_rpt\\_010801.pdf](http://www.idwr.idaho.gov/hydrologic/info/pubs/misc/tvhp/stratigraphic_studies_rpt_010801.pdf)
- Zollweg, J., and Wood, S.H., 1995. Late Cenozoic faulting and maximum credible earthquake assessment: Hells Canyon hydroelectric facilities of Idaho Power Company. Contract report from Boise State University for Idaho Power Company, Boise, Idaho. 71 p.
- Wood, S.H. and Stine, S. 1984. Stop 2. Mono Lake County Park at Dechambeau Creek. *in* Bailey, R.A., Harp, E.L., Keefer, D.K., Bennett, M.J., Miller, C.D., Wood, S.H., and Stine, S.: Mono Craters, Long Valley Caldera: Seismicity, volcanism, and engineering geology (Field Trip 11): in Linz, J., Jr. (ed.) Western Geological Excursions, v. 2. Department of Geological Sciences, Mackay School of Mines, University of Nevada, Reno. p. 37-42.
- Wood, S.H., 1984. Obsidian hydration-rind dating of the Mono Craters. *in* Bailey, R.A., Harp, E.L., Keefer, D.K., Bennett, M.J., Miller, C.D., Wood, S.H., and Stine, S.: Mono Craters, Long Valley Caldera: Seismicity, volcanism, and engineering geology (Field Trip 11): in Linz, J., Jr. (ed.) Western Geological Excursions, v. 2. Department of Geological Sciences, Mackay School of Mines, University of Nevada, Reno. p. 83-87.
- Wood, S.H., and Anderson, J.E., 1981. Chapter 2 – Geology. in Mitchell, J.C. (ed.) Geological, hydrological, geochemical and geophysical investigations of the Nampa-Caldwell and adjacent areas, southwestern Idaho. Geothermal Investigations in Idaho (Part 11). Idaho Department of Water Resources Water Information Bulletin 30. p. 9-31.

## **RECENT COMMITTEE SERVICE (NON-UNIVERSITY)**

- National Academy of Sciences, Committee on Superfund Site Assessment and Remediation in the Coeur d'Alene River Basin (National Research Council), 2004-5.
- Idaho Department of Water Resources, Technical Committee – Treasure Valley Hydrologic Study 1996-2004.
- City of Boise Geothermal Project, Technical Advisory Committee, 1994-96

## **CURRENT PROJECT PROPOSALS**

Society of Exploration Geophysicists Foundation: Applied Field Geophysics – Geoscientists without Borders Program (with Lee Liberty, Kasper Van Wijk, Fongsaward Singharajwarapan, and Siriporn Chaisri, Boise State University and Chiang Mai University) (\$50,000 funded for 2009-2010))

Asia-Pacific Network for Global Change Research: Sediment dynamics and down-stream linkages in tropical streams as affected by projected land-cover/land-use and climatic change (Project leader: A. D. Ziegler, University of Hawaii) (\$133,425).

**JOURNAL ARTICLE and PROPOSAL REVIEWS**

2008 – Journal of Geophysical Research

2006 – Sustainability Science

2005 – Forest Ecology and Management

2005 – Geological Society of America Bulletin

2004 – Journal of Paleolimnology

2004 – Geophysical Research Letters

2004 – Proposals – U.S. Civilian Research and Development Foundation