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**Education**

Ph.D. 2002	Oregon State University	Geography
M.S. 1996	University of South Florida	Marine Science
B.S. 1992	Duke University	Geology

**Professional Experience**

Research Geographer, U.S. Geological Survey, Western Geographic Science Center, 2001 – Present

Project Manager, Extension Sea Grant, Oregon State University, 1999-2001

Instructor, Department of Geosciences, Oregon State University, 1998-1999

**Current Research**

Principal Investigator, “Risk and Vulnerability to Natural Hazards,” Project focuses on the development of models, collaborative processes, and geospatial techniques that address how changes in land use, cover, and condition (e.g., extreme events, population distributions, economic drivers, climate change influences) create or modify the vulnerability of coupled human-environmental systems to natural hazards. Project is funded by USGS Land Change Science Program.

**Refereed Journal Articles**

Wood, N., and Schmidlein, M., 2013, Community variations in population exposure to near-field tsunami hazards as a function of pedestrian travel time to safety, *Natural Hazards*, 65 (3): 1603-1628

Coletti, A., Howe, P., Yarnal, B., and Wood, N., 2013, A support system for assessing local vulnerability to weather and climate, *Natural Hazards*, 65 (1): 999-1008.

Howe, P., Yarnal, B., Coletti, A., and Wood, N., 2013, The participatory vulnerability scoping diagram - deliberative risk ranking for community water systems, *Annals of the Association of American Geographers*, 103 (2), 343-352.

Wood, N., and Schmidlein, M., 2012, Anisotropic path modeling to assess pedestrian-evacuation potential from Cascadia-related tsunamis in the US Pacific Northwest, *Natural Hazards*, 62 (2), 275-300.

Frazier, T., Wood, N., Yarnal, B., and D. Bauer, 2010, Influence of potential sea level rise on societal vulnerability to hurricane storm-surge hazards, Sarasota County, Florida, *Applied Geography*, 30(4), 490-505.

Frazier, T., Wood, N., and Yarnal, B., 2010, Stakeholder perspectives on land-use strategies for adapting to climate-change-enhanced coastal hazards: Sarasota, Florida, *Applied Geography*, 30 (4), 506-517.

Wood, N., Burton, C., and Cutter, S., 2010, Community variations in social vulnerability to Cascadia-related tsunamis in the U.S. Pacific Northwest, *Natural Hazards*, 52(2), 369-389.

Wood, N., and Soulard, C., 2009, Variations in population exposure and sensitivity to lahar hazards from Mount Rainier, Washington, *Journal of Volcanology and Geothermal Research* 188, 367–378.

Wood, N., 2009, Tsunami exposure estimation with land-cover data: Oregon and the Cascadia subduction zone, *Applied Geography* 29, 158-170.

Wood, N., and Hine, A., 2007, Spatial trends in marsh sediment deposition within a microtidal creek system, Waccasassa Bay, Florida, *Journal of Coastal Research*, 23 (4): p. 823 – 833.

Bernknopf, R., Rabinovici, S., Wood, N. and Dinitz, L., 2006, The influence of hazard models on GIS-based regional risk assessments and mitigation policies, *International Journal of Risk Assessment and Management*, 6 (4), 369 – 387.

Wood, N., and Good, J., 2005, Perceptions of earthquake and tsunami issues in U.S. Pacific Northwest port and harbor communities, *International Journal of Mass Emergencies and Disasters*, 23 (3), 103–138.

Wood, N., and Good, J., 2004, Vulnerability of a port and harbor community to earthquake and tsunami hazards: the use of GIS in community hazard planning, *Coastal Management*, 32 (3), 243-269.

Wood, N., and Hine, A., 2003, Sediment dynamics of a sediment-starved, open-marine marsh embayment: Waccasassa Bay, Florida, *Journal of Coastal Research*, 19 (3), 574–583.

Wood, N., Good, J., and Goodwin, B., 2002, Community-based vulnerability assessment of a port and harbor to earthquake and tsunami hazards: Yaquina Bay, Oregon, *Natural Hazards Review*, 3 (4), 148-157.

### **Refereed Federal Research Reports**

Mathie, A., and Wood, N., 2013, Residential and service-population exposure to multiple natural hazards in the Mount Hood region of Clackamas County, Oregon: U.S. Geological Survey Open-File Report 2013–1073, 48 p.

Wood, N., Ratliff, J., and Peters, J., 2012, Community exposure to tsunami hazards in California: U.S. Geological Survey Scientific Investigations Report 2012–5222, 49 p

Wood, N., 2011, Understanding risk and resilience to natural hazards: USGS Fact Sheet 2011-3008, 2 p.

National Research Council, Committee on the Review of the Tsunami Warning and Forecast System and Overview of the Nation's Tsunami Preparedness, Ocean Studies Board, Earth and Life Studies. Tsunami Warning and Preparedness: An Assessment of the U.S. Tsunami Program and the Nation's Preparedness Efforts. National Academies Press, Washington, D.C., 2010. Committee members: John A. Orcutt (Chair), Martha R. Grabowski (co-Chair), Brian Atwater, Ann Bostrom, George Crawford, Richard K. Eisner, Jian Lin, Hugh B. Milburn, Dennis S. Miletti, Costas E. Synolakis, Nathan J. Wood, Harry Yeh, Claudia Mengelt (staff).

Wood, N., and Ratliff, J., 2011, Population and business exposure to twenty scenario earthquakes in the State of Washington: U.S. Geological Survey Open-File Report 2011-1016, 13 p.

Wood, N., and Soulard, C., 2009, Community exposure to lahar hazards from Mount Rainier, Washington: U.S. Geological Survey Scientific Investigations Report 2009-5211, 26 p.

Wood, N., 2008, Amount and percentage of current societal assets in areas on Kaua`i, Hawai`i, within the 1992 Hurricane 'Iniki storm-surge inundation zone: U.S. Geological Survey Open-File Report 2008-1280, 12 p.

Wood, N., and Soulard, C., 2008, Variations in community exposure to tsunami hazards on the open-ocean and Strait of Juan de Fuca coasts of Washington: USGS Scientific Investigations Report 2008-5004, 34 p.

Wood, N., 2007, Variations in community exposure and sensitivity to tsunami hazards in Oregon: Reston, Va., USGS Scientific Investigations Report 2007-5283, 43 p.

Wood, N., Church, A., Frazier, T., and B. Yarnal, 2007, Variations in community exposure and sensitivity to tsunami hazards in the State of Hawai`i: USGS Scientific Investigation Report 2007-5208, 42 p.

Wood, N., and Halsing, D. 2006, Opportunities and needs for mobile-computing technology to support U.S. Geological Survey fieldwork: U.S. Geological Survey Circular 2006-1299, 24 p.  
[<http://pubs.usgs.gov/circ/2006/1299/>]

Wood, N., Sleeter, B., and Ng, P., 2006, Techniques and Methods 11-C1 Geographic Information System Software to Enhance Field-Data Collection and Management of Land Cover Trends Information: U.S. Geological Survey Techniques and Methods 11-C1, 27 p.  
[<http://pubs.usgs.gov/tm/2006/tm11c1/>]

Wood, N., 2006, Dialog on Science Impact: benchmarking external efforts and organizations, USGS Report Series 2006 – 1013, U.S. Geological Survey, Reston, Virginia, 80 p.  
[<http://pubs.usgs.gov/of/2006/1013/>]

McMahon, G., Benjamin, S., Clarke, K., Findley, J., Fisher, R., Graf, W., Gundersen, L., Jones, J., Loveland, T., Roth, K., Usery, E., and N. Wood, 2005, Geography for a changing world: a science strategy for the geographic research of the U.S. Geological Survey, 2005-2015, Circular 1281, U.S. Dept. of the Interior, USGS, Reston, Virginia, 54 p.

### **General media**

Wood, N., 2011, California's tsunami threat--Japan's disaster serves as a reminder to the West Coast to be prepared, Los Angeles Times, Opinion-Editorial section, March 17, 2011, A17

### **White papers**

Association of American Geographers, 2011, Climate change and hazards in the Americas--international interdisciplinary research directions and opportunities, Association of American Geographers Technical Report, funding provided by National Science Foundation.

Dengler, L., McAdoo, B., Sugimoto, M., Rizzo, A., and Wood, N., 2011, Tsunami science – a call for integrated natural-social sciences, unpublished white paper for National Science Foundation workshop on tsunami science, San Francisco, CA, 5 p.

Loveland, T., Brown, J., Claggett, P., Dye, D., Hawbaker, T., Karstensen, K., Wood, N., Usery, L., 2010, Geography Science Synthesis Team, Strategic plan requested by USGS Geography Discipline senior leadership, unpublished white paper, 20 p.

Wood, N., Benjamin, S., and Wein, A., 2009, Hazard opportunities for the USGS Geography Discipline, requested by USGS Geography Discipline senior leadership, unpublished white paper, 3 p.

Wood, N., 2006, National disaster risk assessment program, unpublished white paper in response to call for “big science ideas” for 2007 USGS Science Strategy, content was significant element in the “National Hazards, Risk, and Resilience Assessment Program” section of the 2007 USGS Science Strategy.

### **Dissertations**

Wood, N., 2002, Vulnerability of ports and harbors to earthquake and tsunami hazards in the Pacific Northwest, PhD dissertation, Department of Geosciences, Oregon State University, Corvallis, Oregon.

Wood, N., 1996, Sedimentary dynamics of a coastal embayment and adjacent salt-marsh system: Waccasassa Bay, FL, Master's thesis, Department of Marine Science, University of South Florida, St. Petersburg

### **Conference Presentations with Proceedings**

Fraser, S., Wood, N., Johnston, D., and Leonard, G., 2013, Simulation of local tsunami and evacuation of urban areas, informed by population exposure analysis and studies of tsunami evacuation behavior,

Geophysical Research Abstracts, Vol. 15, EGU2013-3635-1, European General Assembly, Vienna, Austria, 1p.

Wood, N., and Gregg, C., 2012, Societal vulnerability to tsunamis – overview and relationship to a national risk analysis, Proceedings of the National Tsunami Hazard Mitigation Program Workshop on Tsunami Hazard, Risk, and Vulnerability, July 25-25, Seattle, Washington, 3 p.

Baron, H., Wood, N., Ruggiero, P., Allan, J., and P. Corcoran, 2010, Assessing societal vulnerability of U.S. Pacific Northwest communities to storm-induced coastal change, Proceedings of The Coastal Society 22nd conference, 4 p.

Frazier, T., Wood, N., and Yarnal, B., 2009, A framework for using GIS and stakeholder input to assess vulnerability to coastal-inundation hazards: a case study from Sarasota County, Florida, In U. Paleo (ed.), Building safer communities—risk governance, spatial planning and responses to natural hazards, NATO Science for Peace and Security Series, 58, Amsterdam: IOS Press, pp. 226-245.

Frazier, T., Wood, N., and Yarnal, B., 2008, Current & future vulnerability of Sarasota County, Florida, to hurricane storm surge & sea level rise, Proceedings of the Solutions to Coastal Disasters 2008 Conference, Oahu, Hawai`i, p. 210-221.

Wood, N., 2008, Use of midresolution land-cover data for rapid comparison of community vulnerability to tsunamis, Proceedings of the 2006 North American Land Cover Summit, Washington, D.C., Campbell, J.C., Jones, K.B., Smith, J.H., Koeppe, M.T., (eds.), Wash., DC: Association of American Geographers, p. 169 – 180

Wood, N., 2007, Appendix C.1.1 Hazard assessment – Introduction, in Bernard, E., Dengler, L., and Yim, S., (eds.), National Tsunami Research Plan—report of a workshop sponsored by NSF/NOAA, NOAA Technical Memorandum OAR PMEL-133, p. 51.

Sleeter, R., and Wood, N., 2006, Estimating daytime and nighttime population density for coastal communities in Oregon: *Proceedings of the Urban and Regional Information Systems Association, Annual Conference, Vancouver, BC, September 26-29, 2006*, 8 p.

Wood, N., 2006, Variations in community vulnerability to tsunami hazards on the U.S. Pacific Northwest coast, Proceedings: International Disaster Reduction Conference, Davos, Switzerland, volume 3, pp. 649-652.

Dinitz, L., Rabinovici, S.J., Kapla, R., Taketa, R., Wood, N., and Bernknopf, R., 2003, An Interactive GIS Linking Science To Natural Hazard Mitigation Decisions, Proceedings: URISA Annual Conference, October 2003, Atlanta, GA, p. 789-799.

Wood, N., Good, J., and Goodwin, B., 2002, Reducing vulnerability of ports and harbors to earthquakes and tsunamis, *Proceedings, Solutions to Coastal Disasters '02 conference*, American Society of Civil Engineers, Reston, Virginia, 949-963.

Good, J., Goodwin, B., and Wood, N., 2002, Reducing vulnerability of ports and harbors to earthquakes and tsunamis, In *Converging Currents—science, culture and policy at the coast*, Proceedings of the 18th International Conference of the Coastal Society, Galveston, Texas, 5 p.

Wood, N., and Stein, D. 2001, A GIS-based vulnerability assessment of Pacific Northwest ports and harbors to tsunami hazards, *Proceedings, International Tsunami Symposium '01*, Seattle, Washington, 367 – 374.

Stein, D., Eslinger, S., Jackson, R., Wood, N., Good, J., and Goodwin, R., 2001, Reducing earthquake and tsunami hazards in Pacific Northwest ports and harbors- Protecting our Ports and Harbors Project, *Proceedings: International Tsunami Symposium '01, Seattle*, Washington, p. 343-348.

Wood, N. and Good, J., 2000, Natural hazards decision-making: The role of stakeholder needs and scientific input. In *Proceedings, Coasts at the Millennium, 17<sup>th</sup> Conference of The Coastal Society*, Portland, Oregon: The Coastal Society, 371-379.

### **Conference Presentations without Proceedings**

Leonard, L., and Hine, A., 1995, Suspended sediment linkage from coastal embayment to marsh surface: implications of tidal creek efficiency, Abstracts with Programs, Society of Wetland Scientists Annual Meeting, Boston, MA

Wood, N., Leonard, L., and Hine, A., 1995, Sediment linkage from coastal embayment transport to marsh surface deposition, Abstracts with Program, SEPM 1<sup>st</sup> Congress for Sedimentary Geology, St. Petersburg, FL

Wood, N., 2001, Vulnerability assessment of a port and harbor community to earthquake-tsunami hazards, Vulnerability Assessment Techniques II Workshop, NOAA Coastal Services Center, Charleston, SC

Wood, N., and Good, J., 2002, Perceptions of earthquake and tsunami issues in Pacific Northwest port and harbor communities, Natural Hazards Research and Applications Annual Workshop, Boulder, Colorado

Wood, N., and Kapla, R., 2002, U.S. Geological Survey's Center for Science Policy: integrating science and stakeholders in natural hazard decision-making, Natural Hazards Research and Applications Annual Workshop, Boulder, CO

Wood, N., Kapla, R., Taketa, R., and Bernknopf, R., 2003, Portfolio Analyzer—an ArcView extension to aid communities in comparing hazard mitigation strategies, Coastal GeoTools '03 conference, Charleston, SC.

Wood, N., Kapla, R., and Bernknopf, 2003, The Portfolio Modeler decision support system: integrating community values into natural hazard mitigation decision-making, Public Participation GIS Conference, URISA, Portland, Oregon

Wood, N, 2003, Communication of risk, USGS Geographic Analysis and Monitoring Program Science Workshop, Fort Collins, Colorado

Wood, N., Kapla, R., Hessenflow, M., and R. Bernknopf, 2004, Portfolio modeler: a GIS-based tool for community multi-hazard mitigation analysis, Annual meeting of the Association of American Geographers, Philadelphia, Pennsylvania

Wood, N, 2004, Vulnerability of coastal port and harbor communities to rare earthquakes and tsunamis in the Pacific Northwest, U.S.A., Young Scientists' Workshop "Natural Hazards," Society of Risk Analysis, Innsbruck, Austria

Wood, N, and Shapiro, C, 2004, Linking science and society: The USGS Science Impact initiative, Natural Hazards Research and Applications Annual Workshop, Boulder, Colorado

McMahon, G., Loveland, T., Wood, N., and K. Clarke, 2004, Overview of a ten-year science strategy for the geographic research of the U.S. Geological Survey, 2005-2015, National Academy of Sciences, Washington, D.C., .

Wood, N., 2005, Multi-hazard vulnerability assessment, USGS Oregon and Washington Science Conference, Seabeck, Washington .

Wood, N., 2005, Techniques for assessing multi-hazard community vulnerability, USGS Wildfire Conference, Tucson, Arizona

Wood, N., 2005, Research opportunities in hazards geography: understanding risk, vulnerability and resilience, National Assessment Review of the USGS Coastal and Marine Geology Program, Santa Cruz, CA

Ryan, B., Siderelis, K., McMahon, G., Wood, N., Graf, W., Loveland, T., Cutter, S., Marston, R., 2005, A science strategy for the USGS Geography Discipline, 2005-2015, Annual meeting of the Association of American Geographers, Denver, CO

Wood, N., 2005, Vulnerability of coastal communities to catastrophic earthquakes and tsunamis: the U.S. Pacific Northwest coast, Panel at the Annual meeting of the Association of American Geographers, Denver, Colorado

Wood, N., 2006, Vulnerability of Oregon coastal communities to Cascadia-related tsunamis, USGS Coastal and Marine Geology Seminar Series, St. Petersburg, Florida

Wood, N., 2006, Understanding community vulnerability to tsunamis, USGS National Earthquake Information Center, Golden, Colorado

Wood, N., and Tuck, G., 2006, Geospatial-data collection and application for assessing coastal-community vulnerability to tsunamis, Annual meeting of the Association of American Geographers, Chicago, IL

Wood, N., 2006, Variations in community vulnerability to tsunami hazards on the U.S. Pacific Northwest coast, International Disaster Risk Conference, Davos, Switzerland .

Wood, N., and Mitchell, K., 2006, Use of collaborative planning for post-disaster community recovery planning, Cannon Beach, Oregon, Annual Research and Applications Conference, Natural Hazards Center, University of Colorado-Boulder

Wood, N., 2006, Panel member, Vulnerability and risk analysis for decision-making: can a national strategy be developed? Annual meeting of the Association of American Geographers, Chicago, IL

Wood, N., 2007, Assessing community vulnerability to natural hazards: a case study of tsunamis in Hawaii, USGS Chief Scientist Seminar, Reston, VA

Wood, N., 2007, Use of midresolution land-cover data for approximating community vulnerability to tsunami hazards on the Oregon coast, Annual meeting of the Association of American Geographers, San Francisco, CA

Wood, N., 2007, A mobile-computing technology solution for the post-hurricane Blue Roof program, Annual meeting of the Association of American Geographers, San Francisco, CA

Wood, N., Frazier, T., Church, A., and Yarnal, B., 2007, GIS-based assessment of community exposure and sensitivity to tsunami hazards along the Hawaiian coast, Annual meeting of the Association of American Geographers, San Francisco, CA

Wood, N., 2007, Variations in community exposure and sensitivity to Cascadia-related tsunamis in Oregon, Coastal Zone '07 Conference, Portland, Oregon

Wood, N., 2007, Collaborative framework to understand community vulnerability to tsunamis in Hawai'i, Session on the Pacific Risk Management 'Ohana, Coastal Zone '07 Conference, Portland, Oregon

Wood, N., 2007, Variations in community exposure and sensitivity to lahar hazards from Mount Rainier, Washington, Cities on Volcanoes 5 conference, Shimabarra, Japan

Wood, N., 2008, Hazard vulnerability research in the Pacific Northwest, Northwest Area REx meeting, Portland, Oregon

Wood, N., 2008, Community vulnerability to Cascadia-related tsunamis, USGS Oregon Water Science Center, Portland, OR

Wood, N., 2008, Variations in community vulnerability to potential tsunamis generated by a Cascadia Subduction Zone earthquake, National Earthquake Conference, Seattle, WA

Wood, N., 2009, Tsunami exposure estimation with land cover data: Oregon and the Cascadia subduction zone, USGS Pacific Northwest Integrated Science Conference, Portland, Oregon

Wood, N., 2009, Advances in understanding of societal vulnerability to tsunamis since the 2004 Indian Ocean tsunami disaster, American Geophysical Union annual meeting, San Francisco, California

Wood, N., 2009, Potential societal consequences to climate-change-enhanced coastal hazards, USGS/DOI workshop on sea-level rise, coastal vulnerability, and decision support, Herndon, Virginia

Wood, N., 2009, Variations in community vulnerability to Mount Rainier lahar hazards, Geological Society of America annual conference, Portland, Oregon

Wood, N., 2009, Community vulnerability to tsunamis in the U.S. Pacific Northwest, Pardee Keynote Symposium, Geological Society of America annual conference, Portland, Oregon

Wood, N., 2010, GIS-based indicators of societal vulnerability to natural hazards, Disasters and Land Management in the Americas conference, Pan-American Institute of Geography and History (PAIGH), Lima, Peru

Frazier, T., Wood, N., Yarnal, B., 2010, Influence of sea level rise on societal vulnerability to hurricane storm-surge hazards: Sarasota County, Florida, Storm Surges Congress: Risk and management of current and future storm surges, Hamburg Germany

Frazier, T., Wood, N., and Yarnal, B., 2010, Influence of sea level rise on societal vulnerability to hurricane storm-surge hazards: Sarasota County, Florida, Association of American Geographers Annual Meeting, Washington D.C.

Wood, N., 2010, Societal vulnerability to lahar hazards associated with Mount Rainier, WA, USGS Volcano Hazards Program Council, Vancouver, WA

Loveland, T., Brown, J., Claggett, P., Dye, D., Hawbaker, T., Karstensen, K., Wood, N., Usery, L., 2010, Geography Science Synthesis strategic plan, Briefing to USGS Geography Discipline senior leadership, Menlo Park, CA

Wood, N., 2010, Modeling demographic sensitivity to tsunami hazards in the Pacific Northwest using GIS-enabled factor analysis, 3<sup>rd</sup> USGS Modeling Conference, Bloomfield, Colorado

Mathie, A., Sleeter, R., Wood, N., 2010, Dasymetric population modeling to estimate resident exposure to hazards, 3<sup>rd</sup> USGS Modeling Conference, Bloomfield, Colorado

Wood, N., 2011, Societal vulnerability to chronic and catastrophic hazards on the U.S. Pacific Northwest coast, USGS Pacific Northwest Science Conference, Vancouver, WA

Wood, N., 2011, Community vulnerability and adaptation to coastal hazards influenced by climate change, USGS Climate and Land Use Mission Brown Bag Seminar Series

Wood, N., 2011, Minerals and integrated assessments: potential collaborations between the Minerals Program and the GAM Program, briefing to USGS Energy, Minerals and Human Health Mission Area Associate Director, Menlo Park, CA.

Schmidtlein, M., and Wood, N., 2011, Influences on pedestrian tsunami-evacuation modeling, Association of American Geographers annual conference, Seattle, Washington

Frazier, T., Wood, N., Yarnal, B., 2011, Influence of potential sea level rise on contemporary and future hurricane storm-surge hazard zones and societal vulnerability in Sarasota County, Florida, Association of American Geographers Annual Meeting, Seattle, Washington

Diefenbach, A., Wood, N., and Ewert, J., 2011, Societal exposure and sensitivity to lahar hazards from the principal volcanoes in Washington State, Association of American Geographers annual conference, Seattle, Washington.

Ratliff, J., Wood, N., and Weaver, C., 2011, Community exposure and sensitivity to earthquake hazards in Washington State, Association of American Geographers annual conference, Seattle, Washington

Mathie, A., Wood, N., and Sleeter, R., 2011, Using geospatial population modeling to strengthen community preparedness and resilience to natural hazards: Clackamas County, Oregon, Association of American Geographers annual conference, Seattle, Washington

Wood, N., 2011, Variations in community exposure to climate-change-related, coastal-erosion hazards on the U.S. Pacific Northwest coast, 2011 Association of American Geographers annual conference, Seattle, Washington

Wood, N., and Schmidtlein, M., 2011, Tsunami population-vulnerability index based on pedestrian-evacuation modeling, annual American Geophysical Union Fall Meeting, San Francisco, CA

Wood, N., 2011, Raising tsunami awareness and preparedness with tsunami sedimentology: a social science perspective based on the recent U.S. National Academy of Sciences report on the U.S. tsunami warning system, National Science Foundation (NSF) workshop on tsunami sedimentology, San Francisco, California

### **Technical briefings to practitioners and elected officials**

Wood, N., 2003, The USGS Portfolio Modeler, Oregon HAZUS User Group Meeting, Salem, Oregon

Wood, N., 2005, Using GIS for assessing community vulnerability for emergency planning, Partners in Emergency Preparedness Conference, Bellevue, Washington

Wood, N., 2006, Vulnerability of Oregon coastal communities to Cascadia-related tsunamis, Tsunami Summit, Salem, Oregon, briefing for the "Pacific Peril 2006" regional table-top exercise involving local, county, State, and Federal disaster-related agencies

Wood, N., 2006, Regional variations in community vulnerability to tsunamis in Oregon, Cascadia Region Earthquake Workgroup, Quarterly Meeting, Corvallis, Oregon

Wood, N., 2006, Managing community vulnerability, Oregon Emergency Managers' Association annual meeting, Eugene, Oregon

Wood, N., 2006, Overview of Pacific Northwest community vulnerability to tsunamis, Pacific Risk Management 'Ohana Annual Meeting, Kaua'i, Hawai'i

Wood, N., 2007, Variations in community exposure and sensitivity to tsunamis on the open-ocean and Strait of Juan de Fuca coasts of Washington, briefing to Director, Washington Emergency Management Division, Camp Murray, Washington

Wood, N., 2007, Tsunami Risk Assessment Project – next steps, Pacific Risk Management 'Ohana annual meeting, Kihei, Maui, Hawai'i,

Wood, N., 2007, Variations in community exposure and sensitivity to tsunamis in Hawai'i, Oregon, and Washington, National Tsunami Hazard Mitigation Program, Mitigation and Education Sub-Committee, Honolulu, Hawai'i

Wood, N., 2007, Variations in community exposure and sensitivity to tsunamis in the State of Hawai'i, Hawai'i Tsunami Technical Review Committee, Public Affairs Working Group, Honolulu, Hawai'i

Wood, N., 2007, Variations in community exposure and sensitivity to tsunamis in the State of Hawai'i, briefing to Deputy Director, Hawai'i State Civil Defense, Honolulu, Hawai'i

Wood, N., and Anderson, C., 2008, Hawaii Tsunami Risk Assessment Project (TRAP) phase 2: building on success, Pacific Risk Management 'Ohana annual meeting, Honolulu, Hawai'i,

Wood, N., 2008, Variations in community exposure and sensitivity to tsunamis in Oregon, briefing to emergency and land-use managers for coastal Oregon cities (Lincoln City, Seaside, Central Point, Warrenton, Astoria, Silverton, Yachats, Florence, and Bandon), counties (Lincoln, Tillamook, Clatsop), State agencies (City County Insurance Services, Oregon Department of Health Services, Oregon Sea Grant), Clatsop Community College, and Port of Astoria; briefing held in Astoria, Oregon

Wood, N., 2008, Community vulnerability to tsunamis in Cannon Beach, briefing to the City of Cannon Beach, Oregon, Disaster Resilience Committee

Wood, N., 2008, Variations in community exposure and sensitivity to tsunamis on the open-ocean and Strait of Juan de Fuca coasts of Washington, briefing to the Washington State/Local Tsunami Workgroup, Ocean Shores, Washington

Wood, N., 2008, Community vulnerability in Pacific County to Cascadia-related tsunamis, Pacific County (WA) hazard mitigation working group, Ilwaco, Washington

Wood, N., 2009, Understanding and communicating societal risk from volcanic hazards: integrated information to foster behavior change, International Workshop on Strategy of Volcanic Disaster Mitigation, hosted by Japanese National Research Institute for Earth Science and Disaster Prevention, Tokyo, Japan

Wood, N., 2009, Use of GIS for assessing community vulnerability to tsunami hazards, Oregon Geographic Information Council 11<sup>th</sup> GIS Standards Forum, Troutdale, Oregon

Wood, N., 2009, Use of GIS for assessing community vulnerability to natural hazards, Lane County Preparedness Coalition, Eugene, Oregon

Wood, N., 2009, Using GIS to assess societal vulnerability to climate-change-enhanced coastal hazards, Oregon Coastal Management Program (OCMP) Climate Adaptation Planning Information System (CAPIS) workshop, Portland, Oregon

Wood, N., 2009, Social, environmental and economic datasets used in social vulnerability analysis, Oregon Coastal Management Program (OCMP) Climate Adaptation Planning Information System (CAPIS) workshop, Portland, Oregon

Wood, N., 2009, Variations in community exposure to lahar hazards associated with Mount Rainier, briefing to representatives from USGS, Washington Department of Natural Resources, Oregon Department of Geology and Mineral Industries, Oregon Emergency Management, Washington Emergency Management, Pierce County, and Clackamas County, Vancouver, WA

Wood, N., 2010, Variations in community exposure to Mount Rainier lahars, briefing to Director, Washington Military Division, Emergency Management Department and local and county officials, Camp Murray, Washington

Wood, N., 2010, Pedestrian evacuation from Cascadia tsunamis—method development and preliminary results, Washington State/Local Tsunami Working Group, Camp Murray, Washington

Wood, N., 2010, Demographic sensitivity to tsunami using GIS-enabled factor analysis, State of Oregon Coastal Hazards Working Group, Beverly Beach State Park, Oregon

Wood, N., 2010, Demographic sensitivity to tsunami using GIS-enabled factor analysis, Oregon Coastal Planners annual meeting, Florence, Oregon

Wood, N., 2010, Oregon coastal community vulnerability to climate-change-enhanced coastal erosion, Oregon Coastal Planners annual meeting, Florence, Oregon

Wood, N., 2010, Role of transportation damage in amplifying community vulnerability to tsunamis, Northwest Transportation Conference, Oregon State University, Corvallis, Oregon

Wood, N., 2010, Efforts to assess societal vulnerability to natural hazards, Federal Civil Applications Committee, McChord Air Force Base, Washington

Wood, N., 2010, Developing a culture of preparedness through targeted hazard, vulnerability, and risk communication, Disaster Management Workshop Series, St. Johns, Antigua and Barbuda

Wood, N., 2010, Developing a culture of preparedness through targeted hazard, vulnerability, and risk communication, Disaster Management Workshop Series, Basseterre, St. Kitts and Nevis

Orcutt, J., Grabowski, M., Mengelt, C., and Wood, N., 2010, Tsunami warning and preparedness--an assessment of the U.S. Tsunami Program and the Nation's preparedness efforts, Briefing to NOAA officials of results of National Research Council Committee on the Review of the Tsunami Warning and Forecast System and Overview of the Nation's Tsunami Preparedness, Silver Springs, Maryland

Wood, N., 2011, Scoping questions to understand social impacts of a distant tsunami, USGS Multi-Hazards Demonstration Project, Tsunami-scenario kick-off meeting (~100 people in attendance), Port of Long Beach, CA

Wood, N., 2011, Natural hazards in the Portland Metro area, Conference for Building Bridges: Emergency Preparedness for Libraries, Archives, Cultural Institutions & First Responders, Portland, OR

Wood, N., 2011, Community vulnerability to tsunamis in Oregon, Briefing to local, county, State, and Federal representatives (~200 people) involved in the FY13 FEMA regional exercise on a Cascadia-related earthquake and tsunami, Oregon Emergency Management, Salem, Oregon

Wood, N., 2011, Community vulnerability to tsunamis in Washington, Briefing to local, county, State, and Federal representatives (~150 people) involved in the FY13 FEMA regional exercise on a Cascadia-related earthquake and tsunami, Washington Emergency Management Department, Camp Murray, Washington

Wood, N., 2011, Advances in pedestrian evacuation modeling for tsunamis, NOAA West Coast Tsunami Conference, Seattle, Washington

Wood, N., 2012, Pedestrian evacuation modeling for near-field tsunami threats, National Tsunami Hazard Mitigation Program annual meeting, San Diego, CA

### **Technical trainings provided to emergency managers**

Wood, N., Mitchell, K., and LeDuc A., 2004, Vulnerability Assessment Training (two day), Partners for Disaster Resilience Initiative, Eugene, Oregon; in collaboration with University of Oregon; designed for city and county emergency managers and land use planners, participants include representatives from coastal Oregon counties of Coos, Curry, and Columbia.

Wood, N., Mitchell, K., and LeDuc A., 2005, Vulnerability Assessment Training (two day), Partners for Disaster Resilience Initiative, Portland, Oregon; in collaboration with University of Oregon; designed for city and county emergency managers and land use planners, participants include representatives from Willamette Valley counties (Douglas, Linn) and cities (Roseburg, Salem, Eugene)

Wood, N., Mitchell, K., and LeDuc A., 2006, Vulnerability Assessment Training (two day), Partners for Disaster Resilience Initiative, The Dalles, Oregon; in collaboration with University of Oregon; designed for city and county emergency managers and land use planners, participants include representatives from Columbia Gorge counties of Hood River, Sherman, Gilliam, Umatilla, Morrow, Wasco and Wheeler

Wood, N., and LeDuc A., 2006, Post-Disaster Tsunami Recovery Forum (one day), Cannon Beach, Oregon; in collaboration with the University of Oregon; designed for community-level practitioners and the general public

Wood, N., Mitchell, K., and LeDuc A., 2007, Vulnerability Assessment Training (two day), Partners for Disaster Resilience Initiative, Ontario, Oregon; in collaboration with University of Oregon; designed for county emergency managers and land use planners from eastern Oregon counties of Wallowa, Baker, Union, Grant, Malheur, Harney and Lake

Wood, N., and LeDuc, A., 2007, Building disaster-resilient communities, Oregon Public Risk Managers' Association annual meeting, Salishan, Oregon,

Wood, N., Mitchell, K., and LeDuc A., 2008, Vulnerability Assessment Training (two day), Partners for Disaster Resilience Initiative, Astoria, Oregon; designed for city and county emergency managers and land use planners, in collaboration with University of Oregon; participants include representatives from coastal Oregon cities (Lincoln City, Seaside, Central Point, Warrenton, Astoria, Silverton, Yachats, Florence, and Bandon), counties (Lincoln, Tillamook, Clatsop), State agencies (City County Insurance Services, Oregon Department of Health Services, Oregon Sea Grant), Clatsop Community College, and Port of Astoria

Wood, N., Crawford, G., Arcos, N., 2008, Tsunami Education "Train the Trainers" workshop for the Shoalwater Bay Indian Tribe, Tokeland, Washington, in collaboration with State of Washington Emergency Management Division, Military Department

Wood, N., 2008, Use of GIS in Natural Hazards Planning Workshop, 2<sup>nd</sup> Australasian Natural Hazards Management Conference, Wellington, New Zealand

Wood, N., 2008, Tsunami Science Workshop, 2<sup>nd</sup> Australasian Natural Hazards Management Conference, Wellington, New Zealand

Frazier, T., Wood, N., Yarnal, B., and Howe, P., 2008, Vulnerability assessment scoping workshop, Sarasota County, Florida, attended by 40 local representatives that were asked to discuss the combined effects of hurricane storm surge, sea-level rise potential, and shoreline urbanization, funded by NOAA Climate Change Office

Wood, N., Mitchell, K., and LeDuc A., 2009, Vulnerability Assessment Training (one day), Partners for Disaster Resilience Initiative, Salem, Oregon; designed for city and county emergency managers and land use planners, in collaboration with University of Oregon;

Wood, N., 2009, Risk Analysis Training (one day), designed for Washington city and county emergency managers and land use planners, in collaboration with State of Washington Emergency Management Division, Military Department Camp Murray, WA

Wood, N., Crawford, G., and Arcos, N., 2009, Tsunami Education "Train the Trainers" workshop, hosted by State of Washington Emergency Management Division, Camp Murray, WA

Wood, N., 2010, Risk Analysis Training (one day), designed for Washington city and county emergency managers and land use planners, in collaboration with State of Washington Emergency Management Division (WEMD), Military Department Camp Murray, WA

Wood, N., and Driedger, C., 2011, Risk awareness and perceptions, module 6 in FEMA course Volcanic Crisis Awareness, St. Helens, Oregon

### **Science Advisory Boards**

- Board of Directors, Cascadia Region Earthquake Workgroup, 2009 – Present
- Member, State of Washington Hazard Mitigation Advisory Team, 2009 – Present
- Advisor, Oregon Seismic Safety Policy Advisory Commission, 2012 – 2013
- Technical Reviewer, FEMA Cascadia Earthquake Analytical Baseline Scenario Study, 2011 – Present
- Member, Committee on the Review of NOAA’s Tsunami Warning and Forecast System and the Nation’s Tsunami Preparedness, National Academies of Science, Ocean Studies Board, appointed May 15, 2008-December 31, 2009.
- Science Advisory Board, USGS Powell Center for Data Analysis and Synthesis, 2009 – Present
- Member, Advisory Committee, NOAA Coastal Storms Program – Pacific Islands Region, 2011 – Present
- Co-Chair, Post-Disaster Evaluation and Risk Reduction Hui (workgroup), Pacific Risk Management ‘Ohana, 2005 to 2008
- Advisory Committee, Oregon Partners for Disaster Resilience, 2005 – Present
- Member, Hawai‘i Tsunami Technical Review Committee, 2007 - 2009
- Member, Science Advisory Group, State of Washington tsunami vertical evacuation study, 2010 - 2011

### **Professional Membership**

- American Geophysical Union member (2009 – Present)
- Association of American Geographers member (2003 – Present)

### **Strategic science planning**

- Writing Team, USGS Science Impact Program planning, 2003 – 2004
- Writing Team, USGS Geography Discipline, 10-year strategic planning, 2004-2005
- Writing Team, USGS FY07 Hazards Initiative, 2005
- Writing Team, USGS FY08 Hazards Initiative (hurricane section), 2006
- Advisor, USGS Science Strategy Team, 2006
- Invited participant, National Community Resilience Salon, NOAA Workshop, 2006
- Panelist (Hazards), USGS Geology Discipline, 10-year strategic planning, 2007
- Invited participant, USGS Western Region Workshop on Sea Level Rise, Menlo Park, CA, 2007
- Member, Science Advisory Working Group, USGS Geography Discipline, 2007 - 2009
- Invited participant, Resilience and Vulnerability Observatory Network (RAVON), National Science Foundation invitation-only workshop devoted to the development of a national network of observatories that focus on community vulnerability and resilience to natural hazards, 2008
- Invited participant, Earthquake Scenario Workshop, Earthquake Engineering Research Institute (EERI), 2008

- Invited participant, USGS and NOAA strategic planning workshop for sea level rise and climate change research, 2008
- Invited participant, USGS strategic planning workshop for sea level rise and climate change research, 2009
- Submitted requested information on tsunami-related research, Resilience and Sustainability Focus Group, as part of the White House Long-Term National Recovery Plan, 2009
- Member, Science Synthesis Team, USGS Geography Discipline, 2009 – 2010
- Member, USGS Volcano Hazards Program Technical Information Products Committee (TIPC), 2009 – 2010
- Member, Resilient Washington initiative, organized by Washington State Seismic Safety Committee, Seattle, WA, 2010-2011
- Invited participant, Dept. of Interior Southeast Climate Science Center Director, Issue identification for Gulf of Mexico vulnerability project with NOAA, 2011
- Invited participant, Oregon Department of Geology and Mineral Industries, Meeting to prioritize State tsunami education efforts, 2011
- Invited participant, USGS LandCarbon scoping session, Land change trends in the Pacific Northwest, 2011
- Invited participant, USGS Volcano Hazards Program Education and Outreach subcommittee meeting, 2011, Social science on effective hazard education,
- Invited participant, National Science Foundation, 4-day workshop, Tsunami sedimentology and its role in hazard awareness and preparedness, 2011

## **Academic Service**

### Editorial Boards

- Associate Editor, *Natural Hazards Review*, 2011 – Present
- Editorial Board, *Journal of Applied Volcanology*, 2011 – Present
- Editorial Board, *Journal of Geography and Natural Disasters* – 2012 – Present
- Editorial Board, *Open Journal of Geography* – 2007 - 2010

### Manuscript reviewer for journals

- Papers of the Applied Geography Conference, Assoc. of American Geographers, 2004-2006
- Science of the Total Environment – 2006, 2007
- Global Environmental Change, 2007
- Professional Geographer – 2011
- Sustainability, 2011
- Pacific Science - 2011
- Weather, Climate and Society, 2011
- Photogrammetric Engineering and Remote Sensing, 2010, 2009
- Natural Hazards Review, 2010, 2011, 2012 (2)
- Natural Hazards, 2012, 2011, 2010, 2009 (2), 2008
- Open Journal of Geography, 2008, 2009, 2010
- Marine Pollution Bulletin, 2009, 2008
- Natural Hazards and Earth Systems Science, 2008, 2009, 2010
- International Journal of Geographic Information Science, 2008

- Journal of Volcanology and Geothermal Research, 2012

#### Research proposal reviewer

- USGS Mendenhall post-doctoral program – 2007 - 2011
- USGS Geology Discipline FY09 Venture Capital Fund, 2009
- USGS Climate Change Program RFP, 2008
- United Kingdom Natural Environment Research Council, Increasing Resilience to Natural Hazards (IRNH) programme, 2011
- Puerto Rico Sea Grant, 2011
- Public Entity Risk Institute, 2010
- South Carolina Sea Grant, 2009
- NOAA Coastal Services Center, 2003

#### Government program reviews

- USGS Geographic Analysis and Monitoring Program Review, 2011
- USGS Research Grade Evaluation panel reviewer, 2007
- Technical review - FEMA Volcanic Crisis Awareness, National Disaster Preparedness Training Center, 1-day short course, 2011
- State report – Oregon Department of Geology and Mineral Industries, 2011
- FEMA Cascadia Earthquake Scenario, to support 2013 regional functional exercise, 2011
- “Train the Trainer” tsunami education course workbook, Oregon Emergency Management, Oregon QuakeSmart program, 2010
- Official Observer, Sound Shake '08 Earthquake Exercise, Camp Murray, WA, 2008
- U.S. Government Accountability Office Report 07-403 on Natural Hazard Mitigation, 2007
- NOAA Five-Year Plan (2007-2011), 2007
- Technical review, FEMA course on Hazard Mapping and Modeling, 2003

#### Science conference session organizer

- 2007, Association of American Geographers, “Perspectives on Assessing Societal Vulnerability to Natural Hazards”
- 2009, American Geophysical Union, “Scientific advances since the 2004 Indian Ocean Disaster” (with NOAA colleagues)
- 2009, Geological Society of America, “Risk and resilience: advances in understanding societal risk to natural hazards” (with New Zealand colleague)
- 2010, USGS Modeling Conference, (1) Conference organizing committee and (2) Session organizer - “National Hazards, Risk, and Resilience”
- 2011, Association of American Geographers, “USGS Risk and Vulnerability Research”
- 2012, American Geophysical Union, “Building vulnerability to tsunamis”

#### Courses taught

1998, Oregon State Univ., Dept. of Geosciences, “GEO 106 – Geography of the Western World” for three quarters; 240 undergraduate students each term; two teaching assistants

2010, Pan-America Advanced Studies Institute for the Integration of Research on Climate Change and Hazards in the Americas; two-week short course funded by Association of American Geographers and

National Science Foundation; co-taught with 10 other instructors; 40 participants from North, Central and South America; taught in Panama City, Panama; 4 lectures plus facilitated discussions and mentoring

### Invited lectures

2002, Oregon State Univ., Dept. of Geosciences, Geology of Earthquakes; “Natural hazards decision-making”

2003, USGS Cascades Volcano Observatory, “Vulnerability of port and harbor communities to Pacific Northwest earthquakes and tsunamis”

2006, University of Washington, Department of Geography, Hazards class lecture, “Community vulnerability to Pacific Northwest tsunamis”

2006, University of Oregon, Department of Geography, Department lecture, “Community vulnerability to Pacific Northwest tsunamis”

2008, Pennsylvania State University, Department of Geography, Department lecture – Coffee Hour Series, “Community vulnerability to natural hazards”

2008, Oregon State University, Department of Geosciences, Coastal Hazards graduate-level class, “Community vulnerability to tsunamis in Oregon”

2010, Oregon State University, Department of Geosciences, Coastal Hazards graduate-level class, lectures on Community vulnerability to tsunamis in Oregon and on Communicating risk from coastal hazards

2012, Oregon State University, Department of Geosciences, Coastal Hazards graduate-level class with lectures on (1) Social vulnerability to natural hazards, (2) Community vulnerability to tsunamis in Oregon, and (3) Communicating risk from coastal hazards

2013, USGS Menlo Park Public Lecture – Is “The Impossible” Possible in the Pacific Northwest?

2013, Oregon State University, College of Public Health, Corporate Lecture Series

2013, Portland State University, Graduate Emergency managers course, Natural hazards monitoring in the U.S. Pacific Northwest

### Honors and Awards

- Dean’s List, Duke University, 1990, 1992
- Estwing Award for Excellence in Geology, Duke Univ., Dept. of Geology, 5/93
- STAR Award (RTT, Western Region Geography), USGS, 8/03
- STAR Award (NGST, Western Region Geography), USGS, 8/04
- STAR Award (Director’s Office), USGS, 12/04

- STAR Award (PGST/WGSC), USGS, 8/07
- Research Associate, Center for Integrated Regional Assessment, Department of Geography, The Pennsylvania State University, 2006 – 2008
- Best Scientific Paper, USGS Geography Discipline 2008, “Tsunami Exposure Estimation with Land-Cover Data: Oregon and the Cascadia Subduction Zone” in Applied Geography
- Best Scientific Paper, USGS Geography Discipline 2009, “Variations in population exposure and sensitivity to lahar hazards from Mount Rainier, Washington ” in Journal of Volcanology and Geothermal Research
- Elected to Board of Directors, Cascadia Region Earthquake Workgroup, 2009 – Present
- Inclusion of research in USGS Greenbook 2007, 2008, 2009, 2011, 2012

### **Media interviews and articles - Print**

2008, The Oregonian (Portland, OR), Interviewed by Editorial Board, resulting in subsequent Editorial Board piece on tsunami preparedness on 1/20/08; daily circulation 350,000; total readership over 1 million

2008, The Oregonian (Portland, OR), Quoted in story about new Statetsunami-inundation mapping efforts

2008, The Oregonian (Portland, OR), Newspaper article focusing on USGS SIR 2007-5283 (my research on community vulnerability to tsunamis in Oregon), ran 3/9/08

2009, National Geographic News, Quoted and research highlighted in tsunami risk story; interviewed at AGU meeting

2010, Earth Magazine, Quoted in story about tsunami risk mitigation

2010, Emergency Management, Interview about my vulnerability research for online magazine

2010, New York Times, Background interview related to National Research Council report on U.S. tsunami warning system

2010, McClatchy News Service, Quoted in article related to National Research Council report on U.S. tsunami warning system; picked up in newspapers around the world

2011, The Oregonian (Portland, OR), Quoted in multiple articles (3/11, 3/12, 3/24, and 4/6) related to reaction to 2011 Tohoku earthquake and tsunami disaster

2011, MIT Technology Review, Quoted in 3/11/11 article related to 2011 Tohoku earthquake and tsunami disaster

2011, Seattle Times, Quoted in 4/8/11 article related to potential development of tsunami vertical-evacuation structures in Washington

2011, National Geographic, Interview for piece on worldwide threat of near-field tsunamis, to be published in February 2012

2011, Los Angeles Times, Invited Op-Ed piece on California tsunami risk Piece was picked up and reprinted by multiple newspapers, television websites, newsletters, and online news portals

2012, National Geographic, Quoted in article titled “The calm before the wave--where and when will the next tsunami hit?” regarding societal risk from Cascadia tsunami

2013, Huffington Post (among others), featured in article about USGS report that summarizes community exposure to tsunami hazards in California

### **Media interviews and articles – Radio and television**

2008, *Northwest Public Radio*, Radio and website coverage of Oregon and Washington tsunami reports

2009, *KGW8* television nightly news, Interview on tsunami preparedness (Portland, Oregon NBC affiliate)

2011, *Very Spatial* (podcast), Interview of my vulnerability research

2011, *Los Angeles 680 AM KFI*, Related to 2011 Tohoku tsunami disaster (news radio)

2011, *Al-Jazeera English* (television), Interview about Cascadia tsunami threat (3/28)

2011, *Portland 1190 KEX*, Two radio interviews on 3/11 related to 2011 Tohoku earthquake and tsunami disaster

2013, *National Geographic* magazine, consultation on profile of our evacuation modeling