Chris Goldfinger

Associate Professor
College of Oceanic & Atmospheric Sciences, Oregon State University
Admin. Bldg 104, Corvallis, OR 97331-5503 Ph. (541) 737-5214 E-mail: gold@coas.oregonstate.edu

Education and Employment

• B.A. (Geology)	Humboldt State University	1980
• B.S. (Oceanography)	Humboldt State University	1980
• M.S. (Struct. Geology)	Oregon State University	1990
• Ph.D. (Struct. Geology/Geophysics)	Oregon State University	1994

Research Work Experience

• Research Assistant, Oregon State University	4/89-3/94
• Post-Doctoral Research Associate, Oregon State University	3/94-4/95
• Consultant (Earthquake Hazards)	4/94-present
• Consultant (Seafloor survey, geologic hazards and mitigation)	2/95-present
• Assistant Professor of Oceanography (Senior Research)	4/95-7/00
• Associate Professor of Oceanography (Senior Research)	7/00-04/02
• Associate Professor of Oceanography	04/02-present

Teaching and Advising

Courses

• Lectures given in the following courses:
• GEO 444/544 Remote Sensing,
• GEO 461/561 Geology of Earthquakes (full course)
• GEO 380 Earthquakes of the Pacific Northwest
• OC 661 Plate Tectonics and Structure of Ocean Basins (full course)
• OC 333 Frontiers in Ocean Research.
• OC 560 Marine Geology core course.
• OC 561 Marine Geology lab supplement.
• OC 505 Sonar acquisition, processing and interpretation

Advising

Student Thesis Advisor

Name	Degree	Date entered/entering Program	Graduation Date
Joel Johnson	Ph.D.	Winter, 1999	July, 2004
Topic: Relationship between tectonics, earthquakes, and gas hydrates			
Jason Chaytor	Ph.D	Spring, 2001	Currently enrolled
Topic: "Soft" plate boundary tectonics in Southern California and the Gorda Plate			
Chris Romsos	M.S.	Fall, 2001	January, 2004
Topic: Groundfish habitat, relationships between geology and species.			
Grant Kaye	M.S	Fall 2002	October, 2003
Topic: Global investigation of subduction zone topography and locked zones.			
Andrew Lanier	M.S.	Fall, 2003	Currently enrolled
Topic: Geohabitat interpretation of the Northern Oregon upper continental slope.			
Natalie Reed	M.S.	Fall, 2003	Currently enrolled
Topic Deep water coral distribution on the Oregon and Washington margin.			
Daniel Wisdom	M.S	Fall, 2004	
Topic Geobiologic habitats			Currently enrolled

Student Advisory Committees

Name	Degree	Date entered Program	Graduation Date
Sam VanLanningham	MS	Fall, 2000	Fall, 2002
Lisa C. McNeill	PhD	Fall, 1993	Spring, 1999
Robert Dziak	PhD.	Fall, 1994	Spring, 1997
Peter Martin	MS	Fall 1999	Fall 2004
Michelle Punke	PhD	Fall 2000	pending

Emily Schultz	PhD	Fall 2004	pending
Maria Juan Jorda	MS	Fall 2003	pending

Internships Directed

Name	Dates	Research Topic
Katrina Peterson,	6/96-9/96. (with Vern Kulm)	Development of submarine unconformities
Javier Maldonado	2/98-4/98	Visualization of Bathymetric and sonar data
Derick Black	07/01-10/01	Processing multibeam bathymetric data
Suzanne Lovelady (REU)	07/02-09/02	GIS database and visualization
Jeremiah Oxford (REU)	07/02-09/02	Geologic characterization of turbidite sequences
Julia Pastor	07/02-09/02	Geologic characterization of turbidite sequences
Britta Hinrichson (REU)	07/02-09/02	GIS database and visualization
Melissa Meiner	0504-06/05	Submerged paleoshorelines of the Southern California Borderland

Publications

Peer Reviewed

1991 *Tectonics of the Willamette Valley, Oregon*, U.S. (Yeats, R.S., Graven, E.P., Werner, K.S., Goldfinger, C., and Popowski, T), 1991, Geological Survey Open-File Report 91-441-P.

1992 *Transverse structural trends along the Oregon convergent margin: Implications for Cascadia earthquake potential and crustal rotations*, Geology, v. 20, p. 141-144 (Goldfinger, C., Kulm, L.D., Yeats, R.S., Appelgate, B., MacKay, M.E., and Moore, G.F.)

1992 *A left-lateral strike-slip fault seaward of the Oregon convergent margin*, Tectonics, v. 11, p. 465-477 (Appelgate, B., Goldfinger, C., MacKay, M.E., Kulm, L.D., Fox, C.G., Embley, R.W., and Meis, P.J.)

1992 *Neotectonic map of the Oregon continental margin and adjacent abyssal plain*, Oregon Department of Geology and Mineral Industries, OFR 0-92-4, 17 pages and 2 map sheets. (Goldfinger, C., Kulm, L.D., Yeats, R.S., Mitchell, C., Weldon, R. J., II, Peterson, C., Darienzo, M., Grant, W., and Priest, G.R.)

1994 *Active deformation of the Cascadia forearc: Implications for great earthquake potential in Oregon and Washington* [PhD Thesis]: Oregon State University, Corvallis, OR, 202 p. (Goldfinger, C.)

1995 *Forearc deformation and great subduction earthquakes: Implications for Cascadia offshore earthquake potential*: Science, v. 267, p. 856-859 (McCaffrey, R., and Goldfinger, C.)

1995 *A seismic reflection profile across the Cascadia subduction zone offshore central Oregon: New constraints on methane distribution and crustal structure*: Journal of Geophysical Research, v. 100, p. 15,101-15,116 (Tréhu, A., Lin, G., Maxwell, E., and Goldfinger, C.).

1996 *Oblique strike-slip faulting of the Cascadia submarine forearc: The Daisy Bank fault zone off central Oregon*: Subduction Top to Bottom, AGU Geophysical Monograph, p. 65-74 (Goldfinger, C., Kulm, L.D., Yeats, R.S., Hummon, C., Huftile, G.J., Niem, A.R., Fox, C.G., and McNeill, L.C.)

1996 *Active strike-slip faulting and folding of the Cascadia plate boundary and forearc in central and northern Oregon*, in U.S.G.S. Professional Paper 1560, Earthquake Hazards in the Pacific Northwest, Rogers, et al., eds., p. 223-256 (Goldfinger, C., Kulm, L., Yeats, R., Appelgate, B., MacKay, M., and Cochrane, G.)

1996 *Tectonics of the Willamette Valley, Oregon*, in U.S.G.S. Professional Paper 1560, Earthquake Hazards in the Pacific Northwest, Rogers, et al., eds., p. 223-256 (Yeats, R.S., Graven, E.P., Werner, K.S., Goldfinger, C., and Popowski, T.A.)

1997 *Oblique strike-slip faulting of the central Cascadia submarine forearc*: Journal of Geophysical Research, v. 102, p. 8217-8243, (Goldfinger, C., Kulm, L.D., Yeats, R.S., McNeill, L.C., and Hummon, C.)

1997 *Case study of GIS data integration and visualization in marine tectonics*: The Cascadia subduction zone, Marine Geodesy, v. 20, p. 267-289. (Goldfinger, C. and McNeill, L.C.)

1997 *Listric normal faulting on the Cascadia continental shelf*: Journal of Geophysical Research, v. 102, p. 12,123-12,138, 1997. (McNeill, L.C., Piper, K.A., Goldfinger, C., Kulm, L.D., and Yeats, R.S.)

1998 *Stonewall anticline: An active fold on the Oregon continental shelf*: GSA Bulletin, v. 110, p. 572-587 (Yeats, R.S., Kulm, L.D., Goldfinger, C., and McNeill, L.C.)

1999 *The Effects of Upper Plate Deformation on Records of Prehistoric Cascadia Subduction Zone Earthquakes, in* Vita-Finzi, C., and Stewart, I., eds., Coastal Tectonics: Geological Society Special Publication 146, p. 319-342 (McNeill, L.C., Goldfinger, C., Yeats, R.S., Kulm, L.D.)

1999 *Active Tectonics: Data Acquisition and Analysis with Marine GIS, in* Wright, D. J., and Bartlett, D. J., eds., Marine and Coastal Geographic Information Systems: London, Taylor and Francis, Research Monographs in GIS, p. 237-254. (Goldfinger, C.)

1998 *Precise measurements help gauge Pacific Northwest's Earthquake potential*: EOS, v. 79, p. 269-275. (Miller, M., Dragert, H., Endo, E., Freymueller, J.T., Goldfinger, C., Kelsey, H.M., Humphreys, E.D., Johnson, D.J., McCaffrey, R.M., Oldow, J.S., Qamar, A., and Rubin, C.M.)

2000 *Evolution of the Late Neogene Central Cascadia Forearc Basin From Investigations of a Late Miocene Unconformity*, GSA Bulletin,. v. 112, p. 1209-1224 (McNeill, L.C., Kulm, L.D., Goldfinger, C., Yeats, R.S.,)

2000 *Super-scale slumping of the southern Oregon continental margin*: Keating, B., and Waythomas, C., eds., Pure and Applied Geophysics Special Volume on Landslides v. 157, p. 1189-1226 (Goldfinger, C., Kulm, L. D. and McNeill, L.C.)

2000 *Plate coupling along the southern Cascadia subduction zone*, Geophysical Research Letters, v. 27, p. 3117-
3120. (McCaffrey, R., Long, M., Goldfinger C., Zwick, P., Johnson, C. K., and Smith, C. Nabelek, J.)

2000 *Variation of Modern Turbidite Systems Along the Subduction Zone Margin of Cascadia Basin and Implications for Turbidite Reservoir Beds, in* Weimer, P.W., Nelson, C. H. et al. (eds.), Deep-water Reservoirs of the World, Gulf Coast Section Society of Economic Paleontologists and Mineralogists Foundation 20th Annual Research Conference, Dec.3, 2000, Houston, TX., 31p, 15 Figures. (Nelson, C. H., Goldfinger, C. Johnson, J.E., Dunhill, G)

2001 *GPS-determination of along-strike variation in Cascadia margin kinematics: Implications for relative plate motion, subduction zone coupling, and permanent deformation*. Tectonics, v. 20, p. 161-176. (Miller, M., Johnson, D. Rubin, C.M., Dragert, H., and Wang, K. Qamar, A., Endo, E., and Goldfinger, C.)

2000 *Sea Floor methane hydrates at Hydrate Ridge, Cascadia Margin*, AGU Monograph 124 p. 87-98. (Suess, E., Torres, M., Bohrmann, G., Collier, R.W., Rickert, D., Goldfinger, C., Linke, P., Heuser, A., Sahling, H., Heeschen, K., Jung, C., Nakamura, K., Greinert, J., Pfannkuche, O., Trehu, A., Klinkhammer, G., Whiticar, M.J., Eisenhauer, A., Teichert, B., and Elvert, M.)

2001 *Bathymetric Map of the Gorda Plate: Structural and Geomorphological Processes Inferred from Multibeam Surveys*, (Dziak R.P.; Fox C.G.; Bobbitt A.M.; Goldfinger C.) Marine Geophysical Researches, v. 22, p. 235-250.

2002 *Stresses in the Juan de Fuca Plate and the role of mantle resistance to horizontal slab motion, in* The Cascadia subduction zone and related subduction systems; seismic structure, intraslab earthquakes and processes, and earthquake hazards, U.S. Geological Survey Open-File Report 02-328, 169 p., Reston, VA, p. 143 (Wang, K., He, J., Davis, E. E., and Goldfinger, C.).

2001 *Offshore structure of the Juan de Fuca Plate from marine seismic and sonar studies*, (Goldfinger, C., Dziak,, R., and Fox, C.) *in:* Kirby, Stephen, Wang, Kelin, and Dunlop, Susan, eds., 2002, The Cascadia Subduction Zone and Related Subduction Systems-Seismic Structure, Intraslab Earthquakes and Processes, and Earthquake Hazards: U.S. Geological Survey Open-File Report 02-328, 169 p. on 1 CD-ROM, and Geological Survey of Canada Open File 4350 p. 23-26.

2002 *Interim Seafloor Lithology Maps for Oregon and Washington*, Oregon State University Active Tectonics and Seafloor Mapping Laboratory Publication 02-01, 1 digital multilayer map on CD, and text, 11 pp. (Goldfinger, C., Romsos, C., Robison, R., Milstein, R., and Myers, S. A.)

2002 *Complex Subsurface Plumbing Beneath the Southern Hydrate Ridge, Oregon Continental Margin, From High-resolution 3D Seismic Reflection and OBS Data*, (Trehu, A., M., N.L. Bangs, M.A. Arsenault, G. Bohrmann, C. Goldfinger, J.E. Johnson, Y. Nakamura, M.E. Torres), Yokohama meeting, 2002.

2003 *Holocene Earthquake Records From the Cascadia Subduction Zone and Northern San Andreas Fault Based on Precise Dating of Offshore Turbidites* Annual Reviews of Earth and Planetary Sciences, v. 31, p. 555-577 (Goldfinger, C. Nelson, C. H., Johnson, J.)

2003 *Deep-Water Turbidites as Holocene Earthquake Proxies: The Cascadia Subduction Zone and Northern San Andreas Fault Systems*, Annals of Geophysics v. 46, p. 1169-1194 (Goldfinger, C. Nelson, C. H., Johnson, J.)

2004 *Active deformation of the Gorda plate: Constraining deformation models with new geophysical data,* Chaytor, J., C. Goldfinger, R. Dziak, C. Fox, Geology, v. 32, p. 353–356.

2004 *Geophysical constraints on the surface distribution of authigenic Carbonates across the Hydrate Ridge region, Cascadia Margin,* Marine Geology , v. 202, p. 79-120 (Johnson, J., Goldfinger, C., Suess, E.)

2004 *Large Enigmatic Crater Structures Offshore Southern California,* (Legg, M., Nicholson, C., Goldfinger, C.**,** Milstein, R., Kamerling, M.), Geophysical Journal International, v.159, n.2, p.803-815.

In Revision *Holocene Periodicity of Great Earthquakes along the Cascadia Subduction Zone,* Goldfinger, C., Nelson, C.H., Johnson, J., and the Shipboard Scientific Party. Nature.

In Prep *Evidence for "Glacial" denudation of the Carnegie Ridge*, Goldfinger, C., Lyle, M., Mix, C., Pisias, N., Liberty, L., Janik, A.

In Press *A Forearc Section of the Cascadia Subduction Zone at Heceta Bank off Oregon Revealed by High-Resolution Imagery*: Extension of Geologic Mapping to the Continental Shelf. Marine Geology. Embley, R.W., Merle, S., Yeats, R.S., Goldfinger, C., Reynolds, J., and Clague, D.)

In Prep. *Tectonic geomorphology of Hydrate Ridge, central Oregon margin: Hydrate controlled shallow extension,* Goldfinger, C., Johnson, J. E., Clague, D. In prep for GRL.

In Prep. *Active Deformation of Pleistocene Low-Stand Shorelines on the Oregon Continental Margin: Tectonic Erosion during Frontal Accretion*: (Goldfinger, C, Embley, R.W., Hutto, C., Yeats, R.S., McNeill, L.C., and Kulm, L.D.)

In Prep. *Turbidite distribution, periodicity, and paleoseismic methodology Along the Subduction Zone Margin*. USGS Professional Paper 05-XX 27p, 11 Figures. (Nelson, C. H., Goldfinger, C. Johnson, J.E., Dunhill, G.)

In Press *Development of a Regional Seafloor Surficial Geologic (Habitat) Map for the Continental Margins of Oregon and Washington, USA*, (Goldfinger, C., Romsos, C., Robison, R., Milstein, R.). Greene and Todd, eds., Marine Geological and Benthic Habitat Mapping: Geological Association of Canada Special Publication.

In Press *Integration of Geology and Fish Ecology to Assess U.S. West Coast Essential Fish Habitat for Groundfishes at the Scale of the Exclusive Economic Zone*. Copps, S., Parkes, G., Wakefield, W., Yoklavich, M., Bailey, A., Goldfinger, C., Greene, G. *in* Greene and Todd, eds., Marine Geological and Benthic Habitat Mapping: Geological Association of Canada Special Publication.

In Revision *Structural vergence variation and clockwise block rotation in the Hydrate Ridge region, Cascadia accretionary wedge offshore Oregon*, J.E. Johnson, C. Goldfinger, N.L. Bangs, A.M. Tréhu, and J. Chevallier. Submitted to Tectonics.

In Press *River Morphology Related to Uplift and Rock Resistance in the Oregon Coast Ranges*, Vanlaningham, S., Meigs, A., and Goldfinger, C., Earth Surface Processes and Landforms

In Press *Evaluation of a US West Coast Groundfish Habitat Conservation Regulation via Analysis of Spatial and Temporal Patterns of Trawl Fishing Effort*, Bellman, M., Heppell, S., Goldfinger C. *in* Greene and Todd, eds., Marine Geological and Benthic Habitat Mapping: Geological Association of Canada Special Publication.

In Prep *Slope failure record at Hydrate Ridge, links to the Great Earthquake Record*, J.E. Johnson, C. Goldfinger,

In Prep Correlation of Cascadia Great Earthquakes using Sediment Physical Properties from Offshore Cores Goldfinger, C., Nelson, C.H., Johnson, J.E.**,** Morey, A., Gutiérrez Pastor, J., and the Shipboard Scientific Party. For Geophysical Research Letters.

Abstracts, Conference Proceedings, and Reports (partial)

Bohrmann, G., Suess, E., Goldfinger, C., Jung, C., Greinert, J., Torres, M., Johnson, J., and Heath, R., 2000, Calcareous Chemoherm buildups and their relation to gas venting at Cascadia convergent margin: EOS, Transactions of the American Geophysical Union, v. 81, F638.

Brown, K. M., Goldfinger, C., Bohrmann, G., Tryon, M. Torres, M., Jung, C., E.Suess, H. Sahling, A. Trehu. Geological and Hydrogeologic Interrelationships Around Seep and Gas Vent Regions on Hydrate Ridge: Seabed observations. EOS (Transactions of the American Geophysical Union), Fall Meeting 1999

Chaytor, J D; Goldfinger, C ; Dziak, R P., 2002, Active Deformation of the Gorda Plate: Constraining Deformation Models and Subduction Coupling With Recently Collected Multibeam Bathymetric, Sidescan, and Seismic Data . EOS, Transactions of the American Geophysical Union, v

Goldfinger, C., Appelgate, T.B., Kulm, L.D., and Yeats, R.S., 1989, Sidescan sonar imaging of probable active faults on the Juan de Fuca plate adjacent to the central Oregon continental margin: EOS, v. 70, p. 1329.

Goldfinger, C., MacKay, M.E., Kulm, L.D., and Yeats, R.S., 1990, Neotectonics and possible segmentation of the Juan de Fuca plate and Cascadia subduction zone off central Oregon: EOS, v. 71, p. 1580.

Goldfinger, C., Kulm, L.D., and Yeats, R.S., 1991, Active strike-slip faulting of the Oregon Cascadia convergent margin: structurally defined segment boundaries?: EOS (Transactions of the American Geophysical Union), v. 72, p. 314.

Goldfinger, C., Kulm, L.D., and Yeats, R.S., 1991, Neotectonics and strike-slip faulting in the Cascadia subduction zone off Oregon and Washington: Geological Society of America Abstracts with Programs, v. 23, p. 29.

Goldfinger, C., Kulm, L.D., and Yeats, R.S., 1992, Active deformation of the Oregon continental shelf II: Eos Transactions AGU Fall Meeting Supplement, v. 73, p. 526.

Goldfinger, C., Kulm, L.D., and Yeats, R.S., 1992, Oblique strike-slip faulting of the Oregon Cascadia margin: Segmentation and rotation of the forearc: Geological Society of America Abstracts with Programs, v. 24, p. 48.

Goldfinger, C., Kulm, L.D., and Yeats, R.S., 1992, Oblique strike-slip faulting of the Oregon Cascadia margin: Segmentation and rotation of the forearc: Geological Society of America Abstracts with Programs, v. 24, p. 51 (poster)

Goldfinger, C., Kulm, L.D., and Yeats, R.S., 1993, Oblique convergence and strike-slip faults of the Cascadia subduction zone: Oregon margin: EOS (Transactions of the American Geophysical Union), v. 74, p. 200.

Goldfinger, C., Kulm, L.D., McNeill, L., Yeats, R.S., Hummon, C., Huftile, G., Schneider, C., Neim, A.R., Tsutsumi, H., and Chen, Y.J., 1994, Cascadia subduction zone: Active deformation of the Oregon continental shelf: Oregon Academy of Sciences, Proceedings, v. XXX, p. 38.

Goldfinger, C., Kulm, L.D., and Yeats, R.S., 1994, An estimate of maximum earthquake magnitude on the Cascadia subduction zone: Geological Society of America, Abstracts with Programs, v. 26, p. A-525.

Goldfinger, C., Kulm, L.D., and McNeill, L.C., 1995, Super-scale slumping of the southern Oregon Cascadia margin: Tsunamis, tectonic erosion, and extension of the forearc: EOS, Transactions of the American Geophysical Union, Fall Supplement, v. 76, p. F361.

Goldfinger, C., McNeill, L.C., Kulm, L.D., and Yeats, R.S., 1996, Width of the seismogenic plate boundary in Cascadia: Structural indicators of strong and weak coupling: Geological Society of America Abstracts with Programs, v. 28, p. 69.

Goldfinger, C., and Yeats, R.S., 1997, Pre-upper Miocene Structure of the Western Los Angeles Basin: Implications for Strong Ground Motion, *in* Southern California Earthquake Center 1997 Annual Meeting, Costa Mesa, CA, Southern California Earthquake Center, p. 62-63.

Goldfinger, C., McNeill, L.C., Yeats, R.S., and Kulm, L.D., 1997, A submerged Pleistocene Lowstand Shoreline on the Oregon Continental Margin: Proceedings of Late Quaternary Coastal Tectonics Meeting, London.

Goldfinger, C., McCaffrey, R., Nelson, C.H., Nabelek, J., Murray, M., and Zwick, P., 1998, Holocene Great Earthquakes in Cascadia: Seismites to GPS: Eos, Transactions of the American Geophysical Union, Western Pacific Geophysics Meeting, Taipei, v. 79, W115.

Goldfinger, C., Nelson, C.H., and Yongdong, Z., 1998, Investigating the Turbidite Paleoseismologic Record of Holocene Great Earthquakes on the Cascadia Margin: EOS (Transactions of the American Geophysical Union), Fall Meeting.

Goldfinger, C., McCaffrey, R., Murray, M., Zwick, P., Nabelek, J., Smith, C., and Johnson, C., 1998, GPS Constraints on Plate Coupling in central Western Oregon, *in* PANGA (Pacific Northwest Geodetic Array) Annual Meeting, Seattle, WA.

Goldfinger, C., McCaffrey, R., Murray, M., Zwick, P., Nabelek, J., Smith, C., and Johnson, C., 1998, GPS Constraints on Plate Coupling in central Western Oregon, *Seismologocal Research Letters, SSA* Annual Meeting, Seattle, WA.

Goldfinger. C.. Nelson, C.H., Johnson, J., Holocene Recurrence of Cascadia Great Earthquakes based on the Turbidite Event Record, EOS (Transactions of the American Geophysical Union), Fall Meeting 1999

Goldfinger, C., Clague, D. Paull, C., Bohrmann, G., Zhou, Y., Johnson, J.,Torres, M., Trehu, A., Distribution and Morphology of Venting-Related Carbonates near Hydrate Ridge, Oregon Margin, Based on Sidescan Sonar and Multibeam Imagery, EOS (Transactions of the American Geophysical Union), Fall Meeting 1999

Goldfinger, C., Legg, M., and Torres, M., 2000, New mapping and submersible observations of recent activity on the San Clemente Fault: EOS, Transactions of the American Geophysical Union, v. 81, F1069.

Goldfinger, C. McCaffrey, R., Nabelek, J, Johnson, J., 2001, Comments on Plate locking and Rotation of Western Oregon, Pacific Northwest Geodetic Array (PANGA) Annual Meeting, p. 10.

Goldfinger, C. Nelson, C. H.,, Johnson, J., 2001, Northern San Andreas Earthquakes based on the Holocene Turbidite Event Record, Pacific Northwest Geodetic Array (PANGA) Annual Meeting, p. 18.

Goldfinger, C. Nelson, C. H.,, Johnson, J., Holocene Seismicity of the Northern San Andreas Fault based on the Turbidite Event Record, in Kovach, P. and Bokelmann, G., eds., 3rd Conference on Tectonic problems of the San Andreas Fault System, September, 2000, Stanford University.

Goldfinger C., and Mix, A. Report to the National Science Foundation: Testing of a Semi-Autonomous Sea-Floor Drill. Spring, 2000, 12 pages.

Goldfinger, C., Dziak, R., and Fox, C., Offshore structure of the Juan de Fuca Plate from marine seismic and sonar studies, *in:* Kirby, Stephen, Wang, Kelin, and Dunlop, Susan, eds., 2002, The Cascadia Subduction Zone and Related Subduction Systems-Seismic Structure, Intraslab Earthquakes and Processes, and Earthquake Hazards: U.S. Geological Survey Open-File Report 02-328, 169 p. on 1 CD-ROM, and Geological Survey of Canada Open File 4350 p. 23-26.

Goldfinger, C ; Nelson, C H; Johnson, J E., 2002, Temporal Patterns of Turbidites Offshore the Northern San Andreas Fault and Correlation to Paleoseismic Events Onshore EOS, Transactions of the American Geophysical Union, v.

Goldfinger, C Romsos, C., Robison, R., Milstein, R., and Myers, S., 2002, Integrated Database Development for U.S. West Coast Groundfish and their Habitats EOS, Transactions of the American Geophysical Union,

Goldfinger, C., Huftile, G. J., Legg, M., Kamerling, M., 2003, Vertical Tectonics at Peninsular Ranges-Transverse Ranges Intersections: Offshore Investigations of Pleistocene Low-Stand Shorelines, Invited talk, AAPG Pacific Section Meeting, Long Beach.

Goldfinger, C, Nelson, C.H., and Johnson, J.E., 2002, New Patterns Emerging for Cascadia Paleoearthquakes: Clues from the Turbidite Record, EOS, Transactions of the American Geophysical Union, v.

Goldfinger, C, Nelson, C.H., Johnson, J.E., Ross, A.M., 2003, Physical Property Correlations and Radiocarbon Ages Illuminate Cascadia Earthquake Recurrence Patterns, EOS, Transactions of the American Geophysical Union, v.

Goldfinger, C, Nelson, C.H., Johnson, J.E., Ericsson, A., 2003, Marine records of earthquakes along the San Andreas and Cascadia margins, Risk Prediction Workshop, Hamilton, Bermuda, February, 2003.

Goldfinger, C, Nelson, C.H., Johnson, J.E., Ericsson, A., 2003, Determining the Ages and Origins of Earthquake Triggered Submarine Landslides, EOS, Transactions of the American Geophysical Union, v.

Goldfinger, C, Nelson, C.H., Johnson, J.E., Chaytor, J., Ericsson, D., Karabanov, E., Morey Ross, A., and the 37 member Shipboard Scientific Party, 2004, Long-Term Paleoseismic Earthquake Records Along the Cascadia Subduction Zone and Northern San Andreas Fault Based on Turbidite Stratigraphy, Japan Joint Earth and Planetary Science Joint Meeting, May 2004.

Goldfinger, C, Nelson, C.H., Johnson, J.E., Chaytor, J., Ericsson, D., Karabanov, E., Morey Ross, A., and the 37 member Shipboard Scientific Party, 2004, A Possible Long-Term Paleoseismic Earthquake Record Along the Northern San Andreas Fault Based on Turbidite Stratigraphy, U.S.G.S. Workshop on San Andreas Fault Seismicity, January, 2004.

Goldfinger, C, Nelson, C.H., Johnson, J.E., Chaytor, J., Ericsson, D., Karabanov, E., Morey Ross, A., and the 37 member Shipboard Scientific Party, 2005, Correlation of Long-Term Paleoseismic Earthquake Records Along the Cascadia Subduction Zone and Northern San Andreas Fault Based on Turbidite Stratigraphy, Hokudan International Symposium on Active Faulting, Hokudan Japan, January 2005.

Johnson, J., Goldfinger, C., Clague, D.A., Paull, C.K., Torres, M., Trehu, A., and Bohrmann, G., 2000, Surface deformation and distribution of venting-related carbonates along Hydrate Ridge, Oregon Accretionary Prism: EOS, Transactions of the American Geophysical Union, v. 81, F639.

Johnson, J E; Goldfinger, C ; Nelson, C ; Trehu, A M., 2002, The Influence of Subduction Zone Earthquakes on the Frequency of Submarine Landslides and the Destabilization of Gas Hydrate on Hydrate Ridge, Oregon Margin EOS, Transactions of the American Geophysical Union, v

Johnson, J E; Goldfinger, C ; Nelson, C. H., and Underwood, M., 2003, Holocene Earthquakes and an 11,000 year
record of slope failures at Hydrate Ridge, Cascadia margin, EOS, Transactions of the American Geophysical Union, v.

Kulm, L.D., and Goldfinger, C., 1993, Oblique convergence and strike-slip faults of the Cascadia subduction zone: Washington margin: EOS (Transactions of the American Geophysical Union) v. 74, p. 200.

Heeschen, K., Rickert, D., Sahling, H. and C. Goldfinger, Highly Variable Methane Distribution at Hydrate Ridge Sediments, EOS (Transactions of the American Geophysical Union) Fall Meeting Supplement,1999.

Kulm, L.D., Goldfinger, C., McNeill, L.C., and Yeats, R.S., 1994, Diagenetic carbonates and fluid expulsion along a strike-slip fault in the Cascadia accretionary wedge: Geological Society of America, Abstracts with Programs, v. 26, p. A-457.

Kulm, L.D., Goldfinger, C., and Yeats, R.S., 1992, Active deformation of the Oregon continental shelf I: Eos Transactions AGU Fall Meeting Supplement, v. 73, p. 526.

Legg, M., Nicholson, C., Goldfinger, C., Milstein, R., and Kamerling, M., Large Crater Structures Offshore Southern California, EOS (Transactions of the American Geophysical Union) Fall Meeting Supplement,

McCaffrey, R., Goldfinger, C., Murray, M., Zwick, P., Nabelek, J., Smith, C., and Johnson, C., 1998, GPS Constraints on Forearc Sliver Motion, Plate Coupling, and Strain Partitioning in Northwestern Oregon: EOS, Transactions of the American Geophysical Union, Fall Supplement, 1998.

R. McCaffrey, C. Stevens, C. Johnson, P. Zwick, C. Goldfinger, J. Johnson, Y. Zhou, J. Nabelek, M. Murray, W. Prescott, C. Smith, GPS Measurements of Plate Coupling and Strain Partitioning in Northwestern Oregon. : EOS, Transactions of the American Geophysical Union, Fall Supplement, 1999.

McCaffrey, R., Goldfinger, C., Murray, M., Zwick, P., Nabelek, J., Smith, C., and Johnson, C., 1998, GPS Constraints on Forearc Sliver Motion, Plate Coupling, and Strain Partitioning in Northwestern, *in* PANGA (Pacific Northwest Geodetic Array) Annual Meeting, Seattle, WA.

McNeill, L.C., Goldfinger, C., Kulm, L.D., and Yeats, R.S., 1993, Deformation of Quaternary marine terraces in the Siletz Bay region of central Oregon: Proceedings of the Oregon Academy of Sciences, XXX, 38.

McNeill, L.C., Goldfinger, C., Kulm, L.D., and Yeats, R.S., 1994, Tectonics of the Washington continental margin, Cascadia subduction zone: Geological Society of America, Abstracts with Programs, v. 26, p. A-523.

McNeill, L.C., Piper, K.A., Goldfinger, C., and Kulm, L.D., 1995, Detachment faulting on the Cascadia continental shelf: Active extension in a compressional regime?: Eos Trans. AGU, 76(46), F534.

McNeill, L.C., Piper, K.A., Goldfinger, C., and Kulm, L.D., 1996, Listric growth faulting of the Cascadia continental shelf: Geological Society of America, Abstracts with Programs, v. 28, p. 69.

McNeill, L.C., Goldfinger, C., Yeats, R.S., and Kulm, L.D., 1997, Correlations Between Active Continental Shelf Structures And Coastal Lowlands Of The Cascadia Subduction Zone: Proceedings of Late Quaternary Coastal Tectonics meeting, London.

Moore, J.C., et. al., (numerous authors) 1997, The Seismogenic Zone Experiment (SEIZE) Science Plan, University of Hawaii, School of Earth Science and Technology.
http:www.soest.edu/margins

Nelson, C.H., Goldfinger, C., Vallier, T.L., McGann, M.L., and Kashgarian, M., 1996, North to south variation in Cascadia Basin turbidite event history: implications for paleoseismicity: Geological Society of America Abstracts with Programs, v. 28, p. 96.

Nelson, C.H., Goldfinger, C., Vallier, T.L., Kashgarian, M., and Dunhill, G., 1998, Turbidite Event History: Implications For Catastrophic Paleoseismic Events In The Cascadia Subduction Zone: SEPM Research Conference, August 1998.

Nelson, C. H., Goldfinger, C., and The Shipboard Scientific Party, Turbidite Event Stratigraphy and Implications for Cascadia Basin Paleoseismicity, EOS, Transactions of the American Geophysical Union, Fall Supplement, 1999.

Nelson, C.H., Goldfinger, C., Wolf, S., Cascadia Paleoseismicity: Turbidite Pathway Analysis of the Astoria Channel (preliminary title): U.S.G.S Open File Report 99-XXX.

Piper, K.A., McNeill, L.C., and Goldfinger, C., 1995, Active growth faulting on the Washington continental margin: AAPG Pacific Section Convention, v. 79, p. 596

Trehu, A.M., Maxwell, E., and Goldfinger, C., 1993, Seismic characterization of the BSR as it outcrops on the seafloor on the Oregon continental margin: EOS (Transactions of the American Geophysical Union), v. 74, p. 582.

Trehu, A M; Arsenault, M A; Bangs, N L; Bohrmann, G ; Goldfinger, C ; Johnson, J E; Torres, M E., 2002 Plumbing of Active Vents at the Southern Summit of Hydrate Ridge EOS, Transactions of the American Geophysical Union, v.

Wakefield, W W Goldfinger, C. Many other authors, 2002, Continuing Lewis and Clark's Legacy: Exploring the Habitats of Astoria Canyon, Oregon through NOAA's new Program in Ocean Exploration EOS, Transactions of the American Geophysical Union, v

Yeats, R.S., Goldfinger, C., and Kulm, L.D., 1991, Mapping active faults and folds on the ocean floor: The Cascadia convergent margin off Oregon, U.S.A.: Abstract for IGC meeting, Kyoto 1992,

Yeats, R.S., Goldfinger, C., and Kulm, L.D., 1993, Active tectonics at sea: EOS (Transactions of the American Geophysical Union), v. 74, p. 66.

Yeats, R.S., Yamazaki, H., Taira, A., Goldfinger, C., and Kulm, L.D., 1994, Seismotectonics of the Cascadia and Nankai subduction zones: Geological Society of America, Abstracts with Programs, v. 26, p. A-456.

Yeats, R.S., Graven, E.P., Werner, K.S., and Goldfinger, C., 1994, Paleogene Stratigraphy of the Willamette Valley, Oregon: Geological Society of America Abstracts with Programs, v. p4, p. 50.

Professional Meetings, Symposia, and Conferences

- Consulting Panel, Oregon Department of Transportation, Seismic Design Mapping Project, Geomatrix Consultants, 1994-95.
- Panel Member, USGS National Earthquake Hazards Reduction Program Review Panel, 1995, 1997, 1999.
- Invited Panelist, 5 Year Planning Workshop, USGS National Earthquake Hazards Reduction Program, 1997
- Invited Participant, SEIZE Seismogenic Zone Experiment Workshop, Kona HI, 6/97.
- Invited Panelist, National Seismic Hazard Map Review Panel, December 1998.
- Invited Panelist, DESCEND Deep Submergence Workshop, NSF, Washington DC. October, 1999.
- Invited Panelist, Plate Boundary Observatory Geodynamics Workshop, Snowbird, Utah. October, 1999, Palm Springs, October 2000
- Invited Speaker, COMPLEX Post 2003 IODP Workshop, Vancouver B.C. May 1999.
- Convenor and Session Chair (With three others) AGU Special Session on Gas Hydrates (OS7). Dec. 1999
- Convenor and Session Chair AGU Special Session on California Borderland (T13). Dec. 2000
- Invited Speaker, Penrose Conference on Cascadia Subduction Zone Seismicity, Seaside, OR June, 2000.
- Steering Committee, Interdisciplinary Conference on Slab Dynamics, Vancouver British Columbia, Sept., 2000
- Steering Committee, Robotic Seafloor Drills, Large Drill Design Study Leader
- Convenor and Organizer, PANGA, Pacific Northwest Geodetic Array, 2000 Annual Meeting.
- Invited Panelist, International Commission on Environmental Cooperation, Workshop on Essential Habitats, West Coast of North America, May, 2001.
- Invited Panelist, Costa Rica Subduction Workshop, July, 2001, San Jose Costa Rica.
- Invited Panelist, NSF Workshop on Seafloor Drilling Vehicles, College Station, Texas, February 2002.
- Member, Pacific States Fisheries Management Council Habitat Technical Committee, 2002-present.
- Convenor, with Kenji Satake, Workshop on Submarine Paleoseismology of Continental margins. May 14, 2004, Geological survey of Japan, AIST Tsukuba, Japan.
- Invited Panelist, 5th meeting of the U.S.-Japan Natural Resources (UJNR) Panel on Earthquake Research October 12-16 2004. Pacific Grove California.
- Convenor, with Kenji Satake, Workshop on Submarine Paleoseismology of Continental margins. May 14, 2004, Geological survey of Japan, AIST Tsukuba, Japan.
- Convenor, with Kenji Satake, Marine and Coastal Paleoseismology, AGU Fall meeting session T13, 2004.
- Invited Speaker: Hokudan International Symposium on Active Faulting, Hokudan, Japan, January 2005.
- Invited Speaker: University of Oregon Geology Seminar Series 2005.
- Convenor, with Osamu Fujiwara and Brian Atwater, AGU Fall meeting session T13, 2005

• Invited Participant: The Sumatra Earthquake Challenge, Padang Western Sumatra, August 2005.
• Invited Speaker: Pacific Geoscience Centry Seminar Series, January 2006.
• Invited Speaker: Invited Speaker, SSA 1906 Centennial meeting, San Francisco, April, 2006.

Funded Research

Current Grants and Contracts

Holocene Seismicity of the Cascadia Subduction Zone Based on Precise Dating of the Turbidite Event Record: Collaborative Research Between Oregon State University and the U.S. Geological Survey. National Science Foundation, Active Tectonics Initiative. PI: C. Goldfinger CO-PI: C. H. Nelson. 1998-2003. $229,873 NSF.

Testing Spatial Correlation of Subduction Interplate Coupling and Forearc Morpho-Tectonics, NASA Solid Earth and Natural Hazards Program; Chris Goldfinger and Andrew Meigs, $135,000 (1999-2004)

Active Deformation of the Gorda "Plate": Constraining Deformation Models and Subduction Coupling With New Geophysical Data: PI: C. Goldfinger, CO-PI's R. Dziak, and K. Wang. National Science Foundation, MGG, $ 176,106.

Holocene Seismicity of the Northern San Andreas Fault Based on Precise Dating of the Turbidite Event Record. Collaborative Research with Oregon State University and Texas A&M University. US Geological Survey, National Earthquake Hazards Reduction Program, PI: C. Goldfinger, CO-PI: C. H. Nelson. 2001-2005. $211,000.

Collaborative Research: Holocene Seismicity of the Northern San Andreas Fault Based on Precise Dating of the Turbidite Event Record. Oregon State University, Texas A&M University, and the U.S. Geological Survey. National Science Foundation,Tectonics Program. PI: C. Goldfinger CO-PI: C. H. Nelson. 2001-2007. $388,412 NSF.

Geological and Geophysical Bottom Character Databasefor U.S. West Coast Groundfish, Oregon. PI: C. Goldfinger, Co-PI's: Mark Hixon (OSU) Cerise Schmidt (NMFS) Bob Embley (NOAA) CIMRS, CEC, $149,000.

The Influence of Subduction Zone Earthquakes on the Frequency of Submarine Landslides and Destabilization of Gas Hydrate on Hydrate Ridge, Oregon Margin. Source of Support: American Chemical Society. Location of Project: OSU Total Award Amount: $89,743 Total Award Period: 1/1/02-12/31/04

Holocene Seismicity of the Cascadia Subduction Zone Based on Precise Dating of the Turbidite Event Record: Collaborative Research Between OSU, Texas A&M University and U.S. Geological Survey Source of Support: NSF/USGS NEHRP 1998-2003, $162,297.

Illuminating Ancient Shorelines in Southern California: High Resolution Investigation of Recent Tectonics, NOAA/NURP, 122,031, 3/1/03-2/28/05, OSU

GIS Database of Geological Groundfish Habitats, NOAA/NMFS/CIMRS/MCBI, 305,000, 5/01-8/06, OSU.

Holocene paleoseismicity of the Northern San Andreas Fault based on the Turbidite event record. NSF EAR Tectonics. 2001-2007, two awards $313,000.

Holocene paleoseismicity of the Northern San Andreas Fault based on the Turbidite event record. US Geological Survey, National Earthquake Hazards Reduction Program, PI: C. Goldfinger, CO-PI': C.H. Nelson 2001-2005 four awards, $155,000.

The Mw 9.3 Sumatran subduction earthquake and Holocene Paleoseismicity based on turbidite event records: NSF MGG, start date TBA. $698,000.

N.E. Pacific ^{14}C Reservoir Variability Using Synchronous Holocene Earthquake Datums: NSF Marine Geology and Geophysics, start date TBS. $491,410

Past Grants and Contracts

Deformation of Offshore Cascadia: Implications for Maximum Interplate Size and for Deformation Rates in Western Oregon and Washington. USGS National Earthquake Hazard Reduction Program. PI: L.D. Kulm, CO-PI, C. Goldfinger, 1996. $89,069.

Submersible and Remote Vehicle Investigations of Cascadia Forearc Processes: Forearc Deformation, Slope Failure, and Earthquake Potential: NOAA National Undersea Research Program, West Coast National Undersea Research Center. PI: C. Goldfinger, CO-PI, L. D. Kulm, 1995-1998. $130,735.

A Pacific Northwest Geodetic Array (PANGA), US Geological Survey, National Earthquake Hazards Reduction Program, GPS array operation. PI: C. Goldfinger, CO-PI's: R. McCaffrey, J. Nabelek. 1998-2001. $64,000.

High-Resolution Analysis Of The Nature And Volume Of Gas Hydrate And Carbonate Mineralization Across The Oregon Margin Accretionary Complex. National Science Foundation. PI: C. Goldfinger, CO-PI's A.M. Trehu, M. Torres. 1998-2001. $600,000

Sources and Consequences of Fluid discharge and Active Tectonics Along the San Clemente Fault Zone: NOAA National Undersea Research Program. PI: M. Torres, CO-PI's: J.McManus, C. Goldfinger, 1998-2000.

Deformation Rates Based on Undersea Tectonic Geomorphology: A Proposal Submitted in Response to the Active Tectonics Initiative. National Science Foundation, $77,774 (C. Goldfinger and R.S. Yeats)

Forearc Deformation at a Subduction Zone Cusp and Plate Coupling Variations in Cascadia: Collaborative Research Between Rensselaer Polytechnic Institute and Oregon State University. PI: Robert McCaffrey, Co-PI: Chris Goldfinger, National Science Foundation, EAR. $276,440.

Submersible And Sidescan Sonar Investigation Of Active Faults Offshore Los Angeles, California: Slip Rates And Earthquake Hazards, NOAA National Undersea Research Program, West Coast National Undersea Research Center. PI: C. Goldfinger, CO-PI's G. Huftile and R.S. Yeats. $134,597.

Interplay Between Strike-slip Faulting and Contractile Tectonics: The Oblique Cascadia Convergent Margin. National Science Foundation. PI: L.D. Kulm, CO-PI: C. Goldfinger. 1993-1996. $389,312.

Active Faulting on the Oregon and Washington Continental Shelf: Implications Earthquake Size and Deformation Rates in Western Oregon and Washington. NOAA National Undersea Research Program, West Coast National Undersea Research Center. PI: L.D. Kulm, CO-PI, C. Goldfinger. 1995. $83,259

Transfer of Displacement from the Northern Los Angeles Fold and Thrust Belt to Strike-slip Deformation Along the Whittier Fault. Southern California Earthquake Center. PI: R.S. Yeats. $57,160.

Seismic Hazard Investigation of Crustal Faults of the Nearshore Cascadia Forearc, US Geological Survey, National Earthquake Hazards Reduction Program. PI: C. Goldfinger, CO-PI: R. S. Yeats. 1998-1999. $45,775.

Seafloor Mapping for Groundfish Habitat. Oregon Department of Fish and Wildlife. : PI: C. Goldfinger. 1998-1999.
$23,000.

A Sea Test of the PROD Seafloor Drill PI's C. Goldfinger, A. Mix,. National Science Foundation, MGG Instrumentation, $155,395

Earthquake Potential of Major Faults Offshore Southern California: Collaborative Research with Oregon State University and Legg Geophysical, US Geological Survey, National Earthquake Hazards Reduction Program, PI: C. Goldfinger, CO-PI': M. R. Legg. 2001. $74,143.

Millennial-Scale Oscillations of Intermediate Waters in the Pacific Ocean: Ventilation from Southern Ocean? OSU $30,000, 10/31/01.

Field Programs

- Chief Scientist, NOAA SWFSC Sponsored Cruise, R.V. Velero, multibeam. Mapping submarine banks offshore southern California, November, 2005.
- Co-Chief Scientist, NOAA Sponsored Cruise, R.V. Thompson, Advanced Technologies Cruise II, multibeam, fisheries sonars, AUV. October, 2005.
- Co-Chief Scientist, NOAA Sponsored Cruise, R.V. Thompson, Advanced Technologies Cruise, multibeam, fisheries sonars, ROPOS ROV. October, 2004.
- Chief Scientist, NOAA SWFSC Sponsored Cruise, R.V. Velero, multibeam. Mapping submarine banks offshore southern California, October 2003
- Chief Scientist, NSF Sponsored Cruise, R.V. Revelle, Piston coring, multibeam. Investigation of Great Earthquake Paleoseismicity of the San Andreas Fault, July, 2002
- Chief Scientist, NOAA Sponsored National Undersea Research Program Cruise, R.V. Velero, sidescan sonar, seismic reflection, submersible DELTA, 2000, 2001, 2003. Investigation of crustal faulting and slip rates in the Southern California Borderland.
- Scientist, NSF Sponsored Cruise, R.V. Melville, Piston coring, SeaBeam, Middle America Trench, May-June, 2000

- Scientist, NSF Sponsored Cruise, R.V. Atlantis, DSRV ALVIN, Active tectonics of the San Clemente Fault zone, Southern California. March 26-April 4, 2000.
- Chief Scientist, NSF Sponsored Cruise, R.V. Thompson, PROD Seafloor Drill Testing, March 6-18, 2000.
- Chief Scientist, NSF Sponsored Cruise, R.V. New Horizon, sidescan sonar, Investigation of Gas Hydrate Distribution in the Cascadia forearc. June, 1999.
- Chief Scientist, NSF Sponsored Cruise, R.V. Melville, Piston coring, SeaBeam. Investigation of Great Earthquake Paleoseismicity, Pacific Northwest, July, 1999
- Scientist: NSF sponsored cruise, Peru-Chile subduction zone, sidescan, multibeam, multichannel seismic reflection, RV Revelle, 1997. Piggyback project conducted during an ODP Site Survey cruise. Investigated subduction tectonics and submerged low-stand shorelines along the Peru-Chile margin.
- Co-Investigator, with Robert McCaffrey (RPI) and John Nabelek (OSU). GPS Measurements of Crustal Deformation along the Cascadia Subduction Zone. Establishment and operation of permanent geodetic GPS stations and annual campaigns in Oregon for measuring crustal strain along the Cascadia Subduction zone. GPS campaigns conducted in 1996-2001.
- Chief Scientist, NOAA Sponsored National Undersea Research Program Cruise, R.V. Laney Chouest, US Navy Submersible SeaCliff, Advanced Tethered Vehicle, 1996, 1997. Investigation of transverse strike-slip faulting of the Cascadia submarine forearc. Investigation of mega-scale submarine slope failures.
- Chief Scientist, NOAA Sponsored National Undersea Research Program Cruise, R.V. Cavalier, sidescan sonar, submersible DELTA, 1995. Investigation of crustal faulting and slip rates in the Cascadia forearc.
- Co-Chief Scientist, NSF Sponsored cruise, Cascadia Subduction Zone, RV Thomas Thompson, May 1993. Investigation of transverse strike-slip faulting of the Cascadia submarine forearc.
- Co-Chief Scientist, NOAA Sponsored National Undersea Research Program Cruise, R.V. Cavalier, sidescan sonar, submersible DELTA, 1993, 1994. Investigation of crustal faulting and slip rates in the Cascadia forearc.
- Chief Scientist, NOAA Sponsored National Undersea Research Program Cruise, R.V. Jolly Roger, sidescan sonar, submersible DELTA, 1992. Investigation of crustal faulting and slip rates in the Cascadia forearc.
- Scientist: NSF sponsored cruise, Cascadia Subduction Zone, RV Atlantis II, ALVIN, September 1990. Investigation of fluid expulsion along strike slip and thrust faults at the toe of an accretionary wedge.
- Scientist: NSF sponsored sidescan sonar cruise, Cascadia Subduction Zone, RV Wecoma, August, 1989. Site survey cruise for ODP Leg 146.
- Gravity, magnetics, and geologic field work associated with MS thesis, 1987-1989.

Service

University Service

- COAS computer committee 1998-2000, 2004.
- Programs given in support of the OSU Foundation, 1993-present
- GIS development at COAS, 1992-present
- Member, Geophysics Search Committee, 2003
- Member, COAS Promotion and Tenure Committee, 2002-2003
- Member, CIMRS Promotion and Tenure Committee, 2002-2003
- Member, MRM Curricular revision committee.
- Member, Geophysics Remote Sensing position Search Committee, 2005
- Member, Peer Review of Teaching committee 2005

Professional Service:

- Consulting Panel, Oregon Department of Transportation, Seismic Design Mapping Project, Geomatrix Consultants, 1994-95.
- Panel Member, USGS National Earthquake Hazards Reduction Program Review Panel, 1995, 1997, 1999.
- Invited Panelist, 5 Year Planning Workshop, USGS National Earthquake Hazards Reduction Program, 1997
- Invited Panelist, SEIZE Seismogenic Zone Experiment Workshop, Kona HI, 6/97.
- Reviewer, NSF Marine Geology and Geophysics, Division of Ocean Sciences (OCE)

• Reviewer, NSF Tectonics Program, Division of Earth Sciences (EAR)
• Reviewer, NSF Geophysics Program, Division of Earth Sciences (EAR)
• Reviewer, *Journal of Geophysical Research, Solid Earth.*
• Reviewer, Geology.
• Reviewer, *Tectonics.*
• Reviewer, *AGU Monograph Series.*
• Invited Panelist, National Seismic Hazard Map Review Panel, December 1998.
• Invited Panelist, DESCEND Deep Submergence Workshop, NSF, Washington DC. October, 1999.
• Invited Panelist, Plate Boundary Observatory Geodynamics Workshop, Snowbird, Utah. October, 1999
• Invited Panelist, Plate Boundary Observatory Geodynamics Workshop, Palm Springs. May, 2001
• Invited Speaker, COMPLEX Post 2003 IODP Workshop, Vancouver B.C. May 1999.
• Convenor and Session Chair (With three others) AGU Special Session on Gas Hydrates (OS7). Dec. 1999
• Invited Speaker, Penrose Conference on Cascadia Subduction Zone Seismicity Seaside, OR June, 2000.
• Invited Speaker, EERI local chapter, 1996, 1997. Portland Chapter, 1999.
• Member, Executive Committee, PANGA, Pacific Northwest Geodetic Array
• Member, Steering Committee, Robotic Seafloor Drill Development
• Session Chair and Presentation Coordinator, GSA 2002 Cordilleran Section Meeting
• Invited Keynote Speaker, EERI National Meeting, Portland OR, February 2003
• Invited Speaker, AAPG Pacific Section Meeting, May 2003
• Member, Technical Review Committee, Pacific States Marine Fisheries Commission.
• Convenor, AGU Special Session on Marine and Coastal Paleoseismology, 2004.
• Consultant to the Spanish Marine Technical Institute, implementation of long coring on the R/V Hesperides.
• Invited Speaker, Hokudan Symposium on Active Fault Research, Hokudan Japan, January 2005.
• Invited Speaker, Caltech Seminar Series, March. 2005.
• Invited Speaker, University of Oregon Seminar Series, April 2005.
• Invited Speaker, National Academy of Sciences Japan-US meeting, December 2005.
• Invited Speaker, IPGP Geophysics seminar series, Paris, 2005 date TBA.

Professional Community Service/Outreach

- Maintain WWW site that distributes local and regional fault hazard maps, and seafloor habitat maps for Oregon and Washington produced by the Active Tectonics Laboratory.
- Distribute continuous GPS data from two OSU sites via WWW to the geodetic and surveying communities. These data are used by the public and the scientific community for a wide variety of applications outside the science, including LIDAR surveys, timber surveys, land surveys etc.
- Participant in local and regional programs and with local media in earthquake education and preparedness.
- Participant in Project Impact, Benton County Earthquake Hazards Project.
- Science Judge, National Ocean Science Bowl
- Numerous public talks given for the OSU Foundation, local and State entities including the Oregon Seismic Safety Commission, local school boards, and the Oregon Ocean Policy Council.
- Participant in eight documentary films by Oregon Sea Grant (2004), the BBC (2005), Global Net Productions (2003), NOVA (2005), The American Museum of Natural History (2005), and Greenfire Productions (2004) on Indonesia earthquake and tsunami, Cascadia earthquakes, and marine habitat topics.
- Participant in the Ocean Book II publication, an atlas volume of the Oregon Marine environment.
- Interviewee and media point of contact relating to the December 2004 Indonesian tsunami. Live interviews and discussion of earthquake and tsunami broadcast on CNN's "Wolf Blitzer" program (3 occasions), German Television, Discovery Channel, Discovery Canada, and local station KVAL, local radio stations and NPR.
- Volunteer presenter for the Apprenticeships for Science and Engineering (ASE) Midsummer Conference, July 2005.

Other Community Service/Outreach

- Active Member of the Collings Foundation, Living History project bringing restored WWII aircraft to small communities on a nationwide tour. I also created and maintain the Foundation website.
- Supporter of Boy Scouts through Aviation related learning activities.
- Volunteer environmental activities SOLVE, Siskiyou Wild Rivers National Monument, Greenpeace.
- Volunteer for the Corvallis Chamber/Education Job Shadow Program
- Science Judge 2000-2002 National Ocean Science Bowl

Awards

Chevron Oil Company Fellowship, 1988
ARCO Oil and Gas Co. Fellowship, 1989