

Gail L. Christeson – Curriculum Vitae

Associate Director

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RESEARCH INTERESTS

I am interested in crustal structure in various tectonic settings. A continuing interest is in the structure of oceanic crust, and using seismic data to understand its formation and evolution. My newest project studies evolution of slow-intermediate spreading rate crust in the South Atlantic via seismic and drilling data. I am also actively involved in constraining size, morphology, and formation of the Chicxulub impact crater through seismic studies and drilling. In the past I have participated in seismic and drilling studies investigating the Izu-Bonin-Mariana Forearc, the structure of subducting crust near Costa Rica and Barbados, ocean crust at the Blanco Fracture Zone and Hess Deep, the nature of the crust within Bransfield Strait, the arc-continent collision zone in the SE Caribbean, terrane accretion in SE Alaska, and the rifting history of the Gulf of Mexico. In order to characterize the structure in these various environments I collect wide-angle seismic data using a large air-gun source and ocean bottom seismograph receivers; this is often done in conjunction with the acquisition of multi-channel seismic reflection profiles. I then use various techniques, including 2D and 3D tomography and full waveform tomographic inversion to constrain crustal structure.

EDUCATION

B.S. Geophysics, Texas A&M University, 1988

Ph.D. Geophysics, Massachusetts Institute of Technology/Woods Hole Oceanographic Institution, 1994.
Thesis title: Shallow Crustal Structure of the East Pacific Rise Near 9°30'N. Thesis advisor: G.M. Purdy.

POSITIONS HELD

Associate Director, University of Texas Institute for Geophysics (9/17-present)

Senior Research Scientist, University of Texas Institute for Geophysics (9/10-present)

Lecturer, Department of Geosciences, University of Texas (2008 – present)

Research Scientist, University of Texas Institute for Geophysics (9/01-8/10)

Research Associate, University of Texas Institute for Geophysics (9/95-8/02)

Post-doctoral Fellow, University of Texas Institute for Geophysics (1/94 - 8/95)

FIELD EXPERIENCE

2016 IODP Expedition 364, Chicxulub Impact Crater, onshore science party, Bremen, Germany

2016 *Liftboat Myrtle*, IODP Expedition 364, Chicxulub Impact Crater

2016 *R/V Marcus Langseth*, CREST Seismic Acquisition (co-chief scientist)

2014 *Drillship JOIDES Resolution*, IODP Expedition 352, Izu-Bonin-Mariana Forearc

2013 *CGC Sycamore*, OBS Recovery, Craig Alaska Earthquake Rapid Response

2010 *R/V Iron Cat*, Gulf of Mexico Basin Opening (co-chief scientist)

2008 *R/V Marcus Langseth*, STEEP Seismic Acquisition (co-chief scientist)

2005 Yucatan Peninsula - assisted in deployment of seismometers in support of the Chicxulub seismic experiment.

2004 *R/V Maurice Ewing*, Seismic Study at Blanco Transform (chief scientist)

2004 *R/V Seward Johnson II*, SE Caribbean OBS Program (chief scientist)

2004 Yucatan Peninsula - assisted in deployment and recovery of seismometers in support of the Chicxulub seismic experiment.
2003 *R/V Maurice Ewing*, Seismic Study at Hess Deep (chief scientist)
2000 *R/V Nathaniel B. Palmer*, Bransfield Strait OBS Experiment
1999 *R/V Atlantis*, Geological Investigation of Upper Oceanic Crust at Hess Deep Using AMS-120, Argo, and Alvin
1998 *R/V Maurice Ewing*, Coincident MCS/OBS Seismic Reflection/Refraction Study of Lesser Antilles Subduction Zone Backstop and Accretionary Complex
1995 *R/V Maurice Ewing*, TICOSECT: Seismic Experiments to Study Subduction of the Cocos Plate beneath Costa Rica
1991 *R/V Atlantis II*, On-bottom Refraction Experiments on the East Pacific Rise Near Latitude 9°30'N
1989 *CSS John P. Tully*, Seismic Experiments on the Northern Symmetric and Endeavor Segments of the Juan de Fuca Ridge
1988 *R/V Robert D. Conrad*, Sea Beam Survey of the Mid-Atlantic Ridge: Kane to Atlantis Fracture Zones I
1988 *R/V Robert D. Conrad*, SeaMARC II Imaging of the Kane Fracture Zone

PROFESSIONAL SERVICE AND ACTIVITIES (RECENT)

JGR Editor in Chief Search Committee member, Feb 2019 - present
Steering Committee: Scientific Ocean Drilling post 2023, May 2019
UTIG Director Search Committee (co-chair), 2018-2019
JRF Science Evaluation Panel (SEP), site characterization subgroup, Nov 2016 - present
Journal of Geophysical Research – Solid Earth, Associate Editor, Jan 2009 - present
UT Jackson School Appointments Committee, 2018-present
UT Jackson School Awards Committee, 2017-present
Steering Committee: Assessment of the *JOIDES Resolution* in Meeting the Challenges of the IODP Science Plan, Sep 26-27, 2017.
UT Jackson School Associate Dean for Research Search Committee, 2014-2015

HONORS AND AWARDS

Jackson School of Geosciences Outstanding Research Award, 2017
UTIG Director's Circle of Excellence, 2011
Consortium for Ocean Leadership 2010/2011 Distinguished Lecturer
Invited by journal Nature to write Journal Club column, June 11, 2009 issue
2005-2006 JSG Research Fellowship

TEACHING

Instructor, Python for Geoscience Research, Fall Semester, 2019
Co-Instructor, Marine Tectonics, Spring Semester, 2006-2015, 2017
Co-Instructor, Topics in Marine Geology and Geophysics Seminar, Fall Semester, 2009

STUDENTS

Supervisor/Co-Supervisor: Dominik Kardell, PhD, current; Mark Duncan, MS, 2013; Margaret Kroehler, MS, 2007; Trevor Aitken, MS, 2005
Committee Member: Naoma McCall, PhD, current; Catherine Ross, PhD, current; Maureen LeVoir Walton, PhD, 2016; Drew Eddy, PhD, 2014; Robert Reece, PhD, 2012; Yi Tao, PhD, 2012; Matthew McDonald, MS, 2006; David Gorney, MS, 2005

1. Christeson, G.L., J.A. Goff, and R.S. Reece (2019), Synthesis of oceanic crust from two-dimensional profiles, *Rev. Geophysics*, submitted.
2. Rae, A.S.P., G.S. Collins, J.V. Morgan, T. Salge, G.L. Christeson, J. Leung, J. Lofi, S.P.S. Gulick, M. Poelchau, U. Riller, C. Gebhardt, R.A.F. Grieve, G.R. Osinski, and IODP-ICDP Expedition 364 Scientists (2019), Impact-induced porosity and micro-fracturing at the Chicxulub impact structure, *J. Geophys. Res. Planets*, submitted.
3. Rasmussen, C., D.F. Stockli, C.H. Ross, A. Pickersgill, S.P.S. Gulick, M. Schmieder, G.L. Christeson, A. Wittmann, D.A. Kring, and J.V. Morgan, Age preservation in Chicxulub's peak ring - applying U-Pb depth profiling to shocked zircon (2018), *Chem. Geology*, submitted.
4. Gulick, S.P.S, T. Bralower, J. Ormö, B. Hall, K. Grice, B. Schaefer, S. Lyons, K.H. Freeman, J. Morgan, N. Artemieva, P. Kaskes, S. de Graaff, M. Whalen, G. Collins, S.M. Tikoo, C. Verhagen, G.L. Christeson, P. Claeys, M. Coolen, S. Goderis, K. Goto, N. McCall, A. Rae, J. Smit, V. Vajda, A. Wittmann, and the Expedition 364 Scientists (2018), The first day of the Cenozoic, *Proc. Nat. Acad. Sci.*, submitted.
5. Estep, J., R. Reece, D.A. Kardell, G.L. Christeson, and R.L. Carlson (2018), Seismic layer 2A: Evolution and thickness from 0<70 Ma Crust in the slow-intermediate spreading South Atlantic, *J. Geophys. Res. Solid Earth*, submitted.
6. Kardell, D.A., G.L. Christeson, J. Estep, R. Reece, and R.L. Carlson (2018), Long-lasting evolution of layer 2A in the western South Atlantic: Evidence for low-temperature hydrothermal circulation in old oceanic crust, *J. Geophys. Res. Solid Earth*, submitted.
7. Riller, U., M. H. Poelchau, A. S. P. Rae, F. M. Schulte, G. S. Collins, H. J. Melosh, R. A. F. Grieve, J. V. Morgan, S. P. S. Gulick, J. Lofi, A. Diaw, N. McCall, D. A. Kring, and IODP-ICDP Expedition 364 Science Party (2018), Rock fluidization during peak-ring formation of large impact structures, *Nature*, 562(7728), 511-518, doi:10.1038/s41586-018-0607-z.
8. Lowery, C. M., T. J. Bralower, J. D. Owens, F. J. Rodríguez-Tovar, H. Jones, J. Smit, M. T. Whalen, P. Claeys, K. Farley, S. P. S. Gulick, J. V. Morgan, S. Green, E. Chenot, G. L. Christeson, C. S. Cockell, M. J. L. Coolen, L. Ferrière, C. Gebhardt, K. Goto, D. A. Kring, J. Lofi, R. Ocampo-Torres, L. Perez-Cruz, A. E. Pickersgill, M. H. Poelchau, A. S. P. Rae, C. Rasmussen, M. Rebolledo-Vieyra, U. Riller, H. Sato, S. M. Tikoo, N. Tomioka, J. Urrutia-Fucugauchi, J. Vellekoop, A. Wittmann, L. Xiao, K. E. Yamaguchi, and W. Zylberman (2018), Rapid recovery of life at ground zero of the End Cretaceous mass extinction, *Nature*, 559, 288-291, doi:10.1038/s41586-018-0163-6.
9. Eddy, D.R., H.J.A. Van Avendonk, G.L. Christeson, and I.O. Norton (2018), Structure and origin of the rifted margin of the northern Gulf of Mexico, *Geosphere*, 14, 1-14, doi:10.1130/GES01662.1.
10. Christeson, G. L., S. P. S. Gulick, J. V. Morgan, C. Gebhardt, D. A. Kring, E. Le Ber, J. Lofi, C. Nixon, M. Poelchau, A. S. P. Rae, M. Rebolledo-Vieyra, U. Riller, D. R. Schmitt, A. Wittmann, T. J. Bralower, E. Chenot, P. Claeys, C. S. Cockell, M. J. L. Coolen, L. Ferrière, S. Green, K. Goto, H. Jones, C. M. Lowery, C. Mellett, R. Ocampo-Torres, L. Perez-Cruz, A. E. Pickersgill, C. Rasmussen, H. Sato, J. Smit, S. M. Tikoo, N. Tomioka, J. Urrutia-Fucugauchi, M. T. Whalen, L. Xiao, and K. E. Yamaguchi (2018), Extraordinary rocks from the peak ring of the Chicxulub impact crater: P-wave velocity, density, and porosity measurements from IODP/ICDP Expedition 364, *Earth Planet. Sci. Lett.*, 495, 1-11, doi:10.1016/j.epsl.2018.05.013.
11. Artemieva, N., J. Morgan, and Expedition 364 Science Party (2017), Quantifying the Release of Climate-Active Gases by Large Meteorite Impacts With a Case Study of Chicxulub, *Geophys. Res. Lett.*, 44, 10,180-110,188, doi: 10.1002/2017GL074879.
12. Kring, D. A., P. Claeys, S. P. Gulick, J. V. Morgan, G. S. Collins, and IODP-ICDP Expedition 364 Science Party (2017), Chicxulub and the Exploration of Large Peak-Ring Impact Craters through Scientific Drilling, *GSA Today*, 27.
13. Morgan, J. V., S. P. S. Gulick, C. L. Mellet, S. L. Green, and Expedition 364 Scientists (2017), Chicxulub: Drilling the K-Pg Impact Crater, *Proceedings of the International Ocean Discovery Program, 364*, International Ocean Discovery Program, College Station, TX, doi: 10.14379/iodp.proc.364.103.2017.

14. Reagan, M. K., J. A. Pearce, K. Petronotis, R. Almeev, A. J. Avery, C. Carvallo, T. Chapman, G.L. Christeson, E. C. Ferré, M. M. Godard, D. E. Heaton, M. Kirchenbaur, W. Kurz, S. Kutterolf, H. Li, Y. Li, K. Michibayashi, S. Morgan, W. R. Nelson, J. Prytulak, M. Python, A. H. F. Robertson, J. G. Ryan, W. W. Sager, T. Sakuyama, J. W. Shervais, K. Shimizu, and S. A. Whattam (2016), Subduction initiation and ophiolite crust: New insights from IODP drilling, *Int. Geol. Rev.*, *11*, 1439-1450, doi: 10.1080/00206814.2016.1276482.
15. Morgan, J. V., S. P. S. Gulick, T. Bralower, E. Chenot, G. L. Christeson, P. Claeys, C. S. Cockell, G. S. Collins, M. Coolen, L. Ferrière, C. Gebhardt, K. Goto, H. Jones, D. A. Kring, E. Le Ber, J. Lofi, X. Long, C. Lowery, C. Mellet, R. Ocampo-Torres, G. R. Osinski, L. Perez-Cruz, A. Pickersgill, M. Pölchau, A. Rae, C. Rasmussen, M. Rebolledo-Vieyra, U. Riller, H. Sato, D. Schmitt, J. Smit, S. Tikoo-Schantz, N. Tomioka, J. Urrutia-Fucugauchi, M. T. Whalen, A. Wittmann, K. Yamaguchi, and W. Zylberman (2016), The formation of peak rings in large impact craters, *Science*, *354*, 878-882, doi: 10.1126/science.aah6561.
16. Christeson, G.L., S. Morgan, S. Kodaira, M. Yamashita, R. Almeev, K. Michibayashi, T. Sakuyama, E. C. Ferré, and W. Kurz (2016), Physical properties and seismic structure of Izu-Bonin-Mariana fore arc crust: Results from IODP Expedition 352 and comparison with oceanic crust, *Geochem. Geophys. Geosyst.*, *17*, 4973-4991, doi: 10.1002/2016GC006638.
17. Christeson, G.L., and G. A. Barth (2015), Aleutian basin oceanic crust, *Earth Planet. Sci. Lett.*, *426*, 167-175, doi: 10.1016/j.epsl.2015.06.040.
18. Reagan, M. K., J. A. Pearce, K. Petronotis, and Expedition 352 Scientists (2015), Izu-Bonin-Mariana Fore Arc, *Proceedings of the International Ocean Discovery Program, 352*, International Ocean Discovery Program, College Station, TX, doi: 10.14379/iodp.proc.352.2015.
19. Van Avendonk, H.J.A., G.L. Christeson, I.O. Norton, and D.R. Eddy (2015), Continental rifting and sediment infill in the northwestern Gulf of Mexico, *Geology*, *43*, 631-634, doi: 10.1130/g36798.1.
20. Eddy, D. R., H. J. A. Van Avendonk, G. L. Christeson, I. O. Norton, G. D. Karner, C. A. Johnson, and J.W. Snedden (2014), Deep crustal structure of the northeastern Gulf of Mexico: Implications for rift evolution and seafloor spreading, *J. Geophys. Res.*, *119*, 6802-6822, doi: 10.1002/2014JB011311.
21. Christeson, G.L., H. J. A. Van Avendonk, I. O. Norton, J. W. Snedden, D. R. Eddy, G. D. Karner, and C. A. Johnson (2014), Deep crustal structure in the eastern Gulf of Mexico, *J. Geophys. Res.*, *119*, 6782-6801, doi: 10.1002/2014JB011045.
22. Walton, M.A.L., S.P.S. Gulick, R.S. Reece, G.A. Barth, G.L. Christeson, and H.J. Van Avendonk (2014), Dynamic response to strike-slip tectonic control on the deposition and evolution of the Baranof Fan, Gulf of Alaska, *Geosphere*, *10*, 680-691, doi: 10.1130/ges01034.1.
23. Christeson, G.L., H. J. A. Van Avendonk, S. P. S. Gulick, R. S. Reece, G. L. Pavlis, and T. L. Pavlis (2013), Moho interface beneath Yakutat terrane, southern Alaska, *J. Geophys. Res.*, *118*, 5084-5097, doi: 10.1002/jgrb.50361.
24. Van Avendonk, H. J. A., S. P. S. Gulick, G.L. Christeson, L. L. Worthington, T. L. Pavlis, and K. D. Ridgway (2013), Subduction and accretion of sediments in front of the St. Elias orogen, Gulf of Alaska, *Earth Planet. Sci. Lett.*, *381*, 116-126, doi: 10.1016/j.epsl.2013.08.049.
25. Reece, R.S., S.P.S. Gulick, G.L. Christeson, B.K. Horton, H. van Avendonk, and G. Barth (2013), The role of farfield tectonic stress in oceanic intraplate deformation, Gulf of Alaska, *J. Geophys. Res.*, 1862-1872, doi: 10.1002/jgrb.50177.
26. Gulick, S.P.S., G.L. Christeson, P.J. Barton, R.A.F. Grieve, J.V. Morgan, and J. Urrutia-Fucugauchi (2013), Geophysical characterization of the Chicxulub impact crater, *Reviews of Geophysics*, *51*, doi: 10.1002/rog.200007.
27. Gulick, S.P.S., R.S. Reece, G.L. Christeson, H. van Avendonk, L.L. Worthington, and T.L. Pavlis (2013), Transition fault and the unstable Yakutat-Pacific-North American triple junction, *Geology*, *41*, 571-574, doi: 10.1130/G33900.1.
28. Christeson, G.L., J.V. Morgan, and M.R. Warner (2012), Shallow oceanic crust: Full waveform tomographic images of the seismic layer 2A/2B boundary, *J. Geophys. Res.*, *117*, B05101, doi: 10.1029/2011JB008972.

29. Worthington, L.L., H.J.A. van Avendonk, S.P.S. Gulick, G.L. Christeson, and T.L. Pavlis (2012), Crustal structure of the Yakutat terrane: New constraints for understanding the evolution of subduction and collision in southern Alaska, *J. Geophys. Res.*, *117*, B01102, 10.1029/2011JB008493.
30. Kroehler, M. E., P. Mann, A. Escalona, and G.L. Christeson (2011), Late Cretaceous-Miocene diachronous onset of backthrusting along the South Caribbean deformed belt and its importance for understanding processes of arc collision and crustal growth, *Tectonics*, *30*, TC6003, doi: 10.1029/2011TC002918.
31. Reece, R.S., S.P.S. Gulick, B.K. Horton, G.L. Christeson, and L. L. Worthington (2011), Tectonic and climate influence on the evolution of the Surveyor Fan and Channel system, Gulf of Alaska, *Geosphere*, *7*, 830-844, DOI: 10.1130/GES00654.1.
32. Morgan, J.V., M.R. Warner, R.A.F. Grieve, G.L. Christeson, S.P.S. Gulick, and P.J. Barton (2011), Full waveform tomographic images of the peak ring at the Chicxulub impact crater and implications for future drilling, *J. Geophys. Res.*, *116*, B06303, doi:10.1029/2010JB008015.
33. Aitken, T., P. Mann, A. Escalona, and G.L. Christeson (2011), Evolution of the Grenada and Tobago basins and implications for arc migration, *Mar. Petrol. Geol.*, *28*, 235-258, doi: 10.1016/j.marpetgeo.2009.10.003.
34. Barton, P.J., R.A.F. Grieve, J.V. Morgan, A.T. Surendra, P.M. Vermeesch, G.L. Christeson, S.P.S. Gulick, and M.R. Warner (2010), Seismic images of Chicxulub impact melt sheet and comparison with the Sudbury structure, in *Large Meteorite Impacts and Planetary Evolution IV*, edited by R. L. Gibson and W. U. Reimold, pp. 103-113, doi: 10.1130/2010.2465(07).
35. Christeson, G.L., S.P.S. Gulick, H.J.A. van Avendonk, L.L. Worthington, R.S. Reece, and T.L. Pavlis (2010), The Yakutat terrane: Dramatic change in crustal thickness across the Transition fault, Alaska, *Geology*, *38*, 895-898, doi: 10.1130/G31170.1.
36. Hayman, N.W., W. Bach, D. Blackman, G.L. Christeson, K. Edwards, R. Haymon, B. Ildefonse, M. Schulte, D. Teagle, and S. White (2010), Future scientific drilling of oceanic crust, *Eos Trans. AGU*, *91*, 133-134.
37. Christeson, G.L., J.A. Karson, and K.D. McIntosh (2010), Mapping of seismic layer 2A/2B boundary above the sheeted dike unit at intermediate-spreading crust exposed near the Blanco Transform, *Geochem. Geophys. Geosyst.*, *11*, Q03015, doi: 10.1029/2009GC002864.
38. Schulte, P., L. Alegret, I. Arenillas, J. Antonio Arz, P.J. Barton, P.R. Bown, T.J. Bralower, G.L. Christeson, P. Claeys, C.S. Cockell, G.S. Collins, A. Deutsch, T.J. Goldin, K. Goto, J.M. Grajales-Nishimura, R.A.F. Grieve, S.P.S. Gulick, K.R. Johnson, W. Kiessling, C. Koeberl, D.A. Kring, K.G. MacLeod, T. Matsui, J. Melosh, A. Montanari, J.V. Morgan, C.R. Neal, D.J. Nichols, R.D. Norris, E. Pierazzo, G. Ravizza, M. Rebolledo-Vieyra, W.U. Reimold, E. Robin, T. Salge, R.P. Speijer, A.R. Sweet, J. Urrutia-Fucugauchi, V. Vajda, M.T. Whalen, and P.S. Willumsen (2010), The Chicxulub asteroid impact and mass extinction at the Cretaceous-Paleogene boundary, *Science*, *327*, 1214-1218, doi: 10.1126/science.1177265.
39. Christeson, G.L., G.S. Collins, J.V. Morgan, S.P.S. Gulick, P.J. Barton, M.R. Warner (2009), Mantle deformation beneath the Chicxulub impact crater, *Earth Planet. Sci. Lett.*, *284*, 249-257, doi:10.1016/j.epsl.2009.04.033.
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41. Christeson, G.L., P. Mann, A. Escalona, and T.J. Aitken (2008), Crustal structure of the Caribbean-northeastern South America arc-continent collision zone, *J. Geophys. Res.*, *113*, B08104, doi: 10.1029/2007JB005373.
42. Collins, G.S., J. Morgan, P. Barton, G. Christeson, S. Gulick, J. Urrutia, M. Warner, and K. Wünnemann (2008), Dynamic modeling suggests terrace zone asymmetry in the Chicxulub crater is caused by target heterogeneity, *Earth Planet. Sci. Lett.*, *270*, 221-230.

43. Gulick, S.P.S., P.J. Barton, G.L. Christeson, M. McDonald, K. Mendoza-Cervantes, J.V. Morgan, Z.F. Pearson, A. Surrindra, J. Urrutia-Fucugauchi, P.M. Vermeesch, and M.R. Warner (2008), Implications of structural asymmetries in the Chicxulub impact crater, *Nature Geosci.*, *1*, 131-135.
44. Gorney, D., P. Mann, A. Escalona, B. Magnani, and BOLIVAR Study Group (2007), Chronology of Cenozoic tectonic events in western Venezuela and the Leeward Antilles based on integration of offshore seismic reflection data and onland geology, *AAPG Bulletin*, *91*, 653-684.
45. Clark, S. A., D. S. Sawyer, J. A. Austin, Jr., G. L. Christeson, and Y. Nakamura (2007), Characterizing the Galicia Bank-Southern Iberia Abyssal Plain rifted margin segment boundary using MCS and OBS data, *J. Geophys. Res.*, *112*, B03408, doi: 10.1029/2006JB004581.
46. Christeson, G.L., K.D. McIntosh, and J.A. Karson (2007), Inconsistent correlation of seismic layer 2A and lava layer thickness in oceanic crust, *Nature*, *445*, 418-421.
47. Levander, A., M. Schmitz, H. Ave Lallemand, C.A. Zelt, D.S. Sawyer, M.B. Magnani, P. Mann, G.L. Christeson, J.E. Wright, G.L. Pavlis, and J. Pindell (2006), Evolution of the southern Caribbean Plate boundary, *Eos Trans. AGU*, *87*, 97-100.
48. Morgan, J., M. Warner, J. Urrutia-Fucugauchi, S. Gulick, G. Christeson, P. Barton, M. Rebolledo-Vieyra, and J. Melosh (2005), Chicxulub Crater seismic survey prepares way for future drilling, *Eos Trans. AGU*, *86*, 325-328.
49. Christeson, G.L., D.H.N. Barker, J.A. Austin, Jr., and I.W.D. Dalziel (2003), Deep crustal structure of Bransfield Strait: Initiation of a backarc basin by rift reactivation and propagation, *J. Geophys. Res.*, *108*, 2492, doi:10.1029/2003JB002468.
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51. Bangs, N.L., G.L. Christeson, and T.H. Shipley (2003), Structure of the Lesser Antilles subduction zone backstop and its role in a large accretionary system, *J. Geophys. Res.*, *108*, 2358, doi:10.1029/2002JB002040.
52. Barker, D.H.N., G.L. Christeson, and J.A. Austin Jr. (2003), Backarc basin evolution and cordilleran orogenesis: Insights from new ocean-bottom seismograph refraction profiling in Bransfield Strait, Antarctica, *Geology*, *31*, 107-110.
53. Karson, J.A. and G.L. Christeson (2003), Comparison of geologic and seismic structure of uppermost fast-spread oceanic crust: Insights from a crustal cross section at the Hess Deep Rift, in *Heterogeneity in the Crust and Upper Mantle: Nature, Scaling and Seismic Properties*, edited by J. Goff and K. Holliger, Kluwer Academic, New York, 99-129.
54. Morgan, J.V., G.L. Christeson, and C.A. Zelt (2002), 3D velocity tomogram across the Chicxulub crater: Testing the resolution, *Tectonophysics*, *355*, 215-226.
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56. Christeson, G.L., Y. Nakamura, R.T. Buffler, J. Morgan, and M. Warner (2001), Deep Crustal Structure of the Chicxulub Impact Crater, *J. Geophys. Res.*, *106*, 21751-21769.
57. (Note – this manuscript generated a News and Views article in Nature: Melosh, J. (2001), Deep down at Chicxulub, *Nature*, *414*, 861-862.)
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