

**Laura Wallace
Publications**

Wallace, L.M., J. Beavan, S. Bannister, C. Williams, in press, Simultaneous long- and short-term slow slip events at the Hikurangi subduction margin, New Zealand: implications for processes that control slow slip event occurrence, duration, and migration, *J. Geophysical Research*, in press.

Wallace, L.M., A. Fagereng, and S. Ellis, 2012, Upper plate tectonic stress state may influence interseismic coupling on subduction megathrusts, *Geology*, 40, 895-898.

Wallace, L.M.; Barnes, P.; Beavan, R.J.; Van Dissen, R.J.; Litchfield, N.J.; Mountjoy, J.; Langridge, R.M.; Lamarche, G.; Pondard, N. 2012. The kinematics of a transition from subduction to strike-slip : an example from the central New Zealand plate boundary. *Journal of geophysical research. Solid earth*, Online first: doi:10.1029/2011JB008640

Stirling, M.W., McVerry, G.H., Gerstenberger, M., Litchfield, N.J., Van Dissen, R., Berryman, K.R., Langridge, R.M., Nicol, A., Smith, W.D., Villamor, P., **Wallace, L.**, Clark, K., Reyners, M., Barnes, P., Lamarche, G., Nodder, S., Pettinga, J., Bradley, B., Rhoades, D., Jacobs, in press, National Seismic Hazard Model for New Zealand: 2010 Update. *Bulletin of the Seismological Society of America* (in press)

Ellis, S.M., T.A. Little, **L.M. Wallace**, B.R. Hacker, and S.J.H. Buiter (2011), Feedback between rifting and diapirism can exhume ultrahigh-pressure rocks, *Earth and Planet. Sci. Letters*, 311, 427-438.

Mahony, S.H.; **Wallace, L.M.**; Miyoshi, M.; Villamor, P.; Sparks, R.S.J.; Hasenaka, T. 2011. Volcano-tectonic interactions during rapid plate-boundary evolution in the Kyushu region, SW Japan. *Geological Society of America bulletin*, 123(11/12): 2201-2223; doi: 10.1130/B30408.1

Fry, B., K. Chao, S. Bannister, Z. Peng, and **L. Wallace** (2011), Deep tremor in New Zealand triggered by the 2010 Mw8.8 Chile earthquake, *Geophys. Res. Lett.*, 38, L15306, doi:10.1029/2011GL048319.

Power, W.L.; **Wallace, L.M.**; Wang, X.; Reyners, M.E. 2011. Tsunami hazard posed to New Zealand by the Kermadec and southern New Hebrides subduction margins : an assessment based on plate boundary kinematics, interseismic coupling, and historical seismicity. *Pure and applied geophysics*, Online first: doi:10.1007/s00024-011-0299-x

Wallace, L. M., and J. Beavan (2010), Diverse slow slip behavior at the Hikurangi subduction margin, New Zealand, *J. Geophys Res.*, 115(B12402), doi:10.1029/2010JB007717.

Wallace, L.M., R. Bell, J. Townend, S. Ellis, S. Bannister, S. Henrys, R. Sutherland, and P. Barnes, (2010), Subduction systems revealed: Studies of the Hikurangi Margin, *EOS, Transactions, AGU* (front page feature article), 91(45), 417-418.

Beavan, R.J.; Samsonov, S.; Motagh, M.; **Wallace, L.M.**; Ellis, S.M.; Palmer, N.G. 2010. The Darfield (Canterbury) earthquake : geodetic observations and preliminary source model. *Bulletin of the New Zealand Society for Earthquake Engineering*, 43(4): 228-235

Bell, R., R. Sutherland, D.H.N. Barker, S. Henrys, S. Bannister, **L.Wallace**, J. Beavan (2010) Seismic reflection character of the Hikurangi subduction interface, New Zealand, in the region of repeated Gisborne slow slip events, *Geophysical Journal International*, 180(1), 34-48).

Litchfield, N., K. Wilson, K. Berryman, and **L. Wallace** (2010), Coastal uplift mechanisms at Pakarae River mouth: constraints from a combined Holocene fluvial and marine terrace dataset, *Marine Geology*, 270 (1-4), 72-83

Wallace, L. M., and 21 co-authors (2009), Characterizing the seismogenic zone of a major plate boundary subduction thrust: Hikurangi Margin, New Zealand, *Geochem. Geophys. Geosyst.*, 10, Q10006, doi:10.1029/2009GC002610.

Wallace, L.M., S. Ellis, K. Miyao, S. Miura, J. Beavan, and J. Goto (2009), Enigmatic, highly active left-lateral shear zone in southwest Japan explained by aseismic ridge collision, *Geology*, 37(2), 143-146, doi: 10.1130/G25221A.

Wallace, L. M., S. Ellis, and P. Mann (2009), Collisional model for rapid fore-arc block rotations, arc curvature, and episodic back-arc rifting in subduction settings, *Geochem. Geophys. Geosyst.*, 10, Q05001, doi:10.1029/2008GC002220.

Wallace, L.M., J. Beavan, S. Miura, R. McCaffrey, (2009), Using Global Positioning System data to assess tectonic hazards, in, *Volcanism, Tectonism and Siting of Nuclear Facilities*, eds. Charles Connor, Laura Connor, and Neil Chapman, Cambridge University Press, pp. 156-175.

Stirling, M.W., Berryman, K., **Wallace, L.M.**, Litchfield, N., Beavan, J., Smith, W., (2009), Multidisciplinary probabilistic tectonic hazard analysis, in, *Volcanism, Tectonism and Siting of Nuclear Facilities*, eds. Charles Connor, Laura Connor, and Neil Chapman, Cambridge University Press, pp.257-275.

Webster, J.M., J.C Braga, D.A. Clague, C. Gallup, J.R. Hein, D.C. Potts, W. Renema, R. Riding, K. Riker-Coleman, E. Silver, **L.M. Wallace**, 2009, Coral reef evolution on rapidly subsiding margins, *Global and Planetary Change*, 66, 129-148.

McCaffrey, R., **L. M. Wallace** and J. Beavan (2008), Slow slip and frictional transition at low temperature at the Hikurangi subduction zone, *Nature Geoscience*, 1, doi:10.1038/ngeo178.

Wallace, L.M., S. Ellis, P. Mann, 2008, Tectonic block rotation, arc curvature, and back-arc rifting: Insights into these processes in the Mediterranean and the western Pacific, Donald D Harrington Symposium on the Geology of the Aegean IOP Publishing, IOP Conf. Series: Earth and Environmental Science **2**, doi:10.1088/1755-1307/2/1/012010

Francois-Holden, C., S. Bannister, J. Beavan, J. Cousins, B. Field, R. McCaffrey, G. McVerry, M. Reyners, J. Ristau, S. Samsonov, and **L. Wallace** 2008, The M_w 6.6 Gisborne Earthquake of 2007: Preliminary records and general source characterisation, *Bulletin of the New Zealand Society for Earthquake Engineering*, 41(4), 266-277.

Wallace, L.M.; Beavan, R.J.; McCaffrey, R.; Berryman, K.R.; Denys, P. 2007 Balancing the plate motion budget in the South Island, New Zealand using GPS, geological and seismological data. *Geophysical journal international*, 168(1): doi:10.1111/j.1365-246X.2006.03183.x

Nicol, A. and **L.M. Wallace**, 2007, Temporal stability of deformation rates: comparison of geological and geodetic observations, Hikurangi subduction margin, New Zealand, *Earth and Planetary Science Letters*, doi: 10.1016/j.epsl.2007.03.039

Beavan, J., Ellis, S., **Wallace, L.**, and Denys, P., 2007, Kinematic constraints from GPS on oblique convergence of the Pacific and Australian Plates, central South Island, New Zealand, *in: A Continental Plate Boundary: Tectonics at South Island, New Zealand*, AGU Geophysical monograph series 175, doi: 10.1029/175GM05.

Sutherland, R., Eberhart-Phillips, D., Harris, R., Stern, T., Beavan, J., Ellis, S., Henrys, S., Cox, S., Norris, R.J., Berryman, K.R., Townend, J., Bannister, S., Pettinga, J., Leitner, B., **Wallace, L.**, Little, T.A., Cooper, A.F., Yetton, M., and Stirling, M., 2007, Do great earthquakes occur on the Alpine Fault in central South Island, New Zealand? *in: A Continental Plate Boundary: Tectonics at South Island, New Zealand*, AGU Geophysical monograph series 175, doi: 10.1029/175GM05.

Ellis, S., Wilson, C., Bannister, S., Bibby, H., Heise, W., **Wallace, L.**, and Patterson, N., 2007, A future magma inflation event under the rhyolitic Taupo volcano, New Zealand: Numerical models based on constraints from geochemical, geological, and geophysical data. *J. Volc. Geoth. Res.* 168, 1-27, 2007.

Nicol, A., C. Mazengarb, F. Chanier, G. Raitt, C. Uruski, and **L. Wallace**, 2007, Tectonic evolution of the active Hikurangi subduction margin, New Zealand, since the Oligocene, *Tectonics*, 26, TC4002, doi:10.1029/2006TC002090.

Webster, J. M., **L. M. Wallace**, D. A. Clague, and J. C. Braga, 2007, Numerical modeling of the growth and drowning of Hawaiian coral reefs during the last two glacial cycles (0–250 kyr), *Geochem. Geophys. Geosyst.*, 8, Q03011, doi:10.1029/2006GC001415. [10]

Beavan, J., **Wallace, L.**, Douglas, A., and Fletcher, H., 2007, Slow slip events on the Hikurangi subduction interface, New Zealand, Dynamic Planet, Monitoring and Understanding a Dynamic Planet with Geodetic and Oceanographic Tools, IAG Symposium, Cairns, Australia, 22-26 August, 2005, Series: International Association of Geodesy Symposia, Tregoning, Paul; Rizos, Chris (Eds.), Vol. 130, 438-444. [6]

Wallace, L.M., and Beavan, R.J., 2006, A large slow slip event on the central Hikurangi subduction interface beneath the Manawatu region, North Island, New Zealand. *Geophysical research letters*, 33: doi:10.1029/2006GL026009.

Riker-Coleman, K.E., C.D. Gallup, **L.M. Wallace**, J.M. Webster, H. Cheng, and R.L. Edwards, 2006, Evidence of Holocene uplift in east New Britain, Papua New Guinea, *Geophysical Research Letters*, 33, doi:10.1029/2006GL026596.

Cochran, U., K. Berryman, J. Zachariasen, D. Mildenhall, B. Hayward, K. Southall, C. Hollis, P. Barker, **L. Wallace**, B. Alloway, and K. Wilson, 2006, Paleocological insights into subduction earthquake occurrence, eastern North Island, New Zealand, *GSA Bulletin*, 118(9/10), doi:10.1130/B25761.

Wallace, L.M., R. McCaffrey, J. Beavan, S. Ellis, 2005, Rapid microplate rotations and back-arc rifting at the transition between collision and subduction, *Geology*, 33(11), 857-860.

Douglas, A., J. Beavan, **L. Wallace**, J. Townend., 2005, Slow slip on the northern Hikurangi subduction interface, New Zealand, *Geophysical Research Letters*, 32,

doi:10.1029/2005GL023607.

Wallace, L.M., C. Stevens, E. Silver, R. McCaffrey, W. Loratung, S. Hasiata, R. Stanaway, R. Curley, R. Rosa, and J. Taugaloidi, 2004a, GPS and Seismological Constraints on Active Tectonics and Arc-Continent Collision in Papua New Guinea: implications for mechanics of microplate rotations in a plate boundary zone, *Journal of Geophysical Research*, 109, doi: 10.1029/2003JB002481.

Wallace, L.M., Beavan, J., McCaffrey, R., and Darby, D., 2004b, Subduction zone coupling and tectonic block rotation in the North Island, New Zealand, *Journal of Geophysical Research*, 109, doi:10.1029/2004JB003241.

Webster, J., **L. Wallace**, E. Silver, D. Potts, J.C. Braga, W. Renema, K. Riker-Coleman, C. Gallup, 2004, Coralgall composition of drowned carbonate platforms in the Huon Gulf, Papua New Guinea: implications for lowstand development and reef drowning, *Marine Geology*, 204, 59-89.

Webster, J.M., **L. Wallace**, E. Silver, B. Applegate, D. Potts, J.C. Braga, K. Riker-Coleman, C. Gallup, 2004, Drowned carbonate platforms in the Huon Gulf, Papua New Guinea, *Geochem., Geophys., Geosyst.*, 5, Q11008, doi:10.1029/2004GC000726.

Pollock, C.J., K.G. Stewart, J.P. Hibbard, **L. Wallace**, and R. Giral, 2004, Thrust wedge tectonics and strike-slip faulting in the Sierra Nacimiento, New Mexico: in, Cather, S.M., S.A. Kelley, and W.C. McIntosh, editors, *Tectonics, Geochronology and Volcanism in the Southern Rocky Mountain-Rio Grande Rift area*, New Mexico Bureau of Mines and Mineral Resources Bulletin 160.