

## CURRICULUM VITAE

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### **PRESENT POSITION:**

Senior Research Scientist, Institute for Geophysics  
The John A. and Katherine G. Jackson School of Geosciences  
The University of Texas at Austin  
Bldg 600, 4412 Spicewood Springs Rd.  
Austin, TX 78759-8500, U.S.A.

### **EDUCATION:**

B.S. University of North Carolina, Chapel Hill, NC, 1971, Geology  
M.S. Brown University, Providence, RI, 1974, Geology  
Ph.D. Cornell University, Ithaca, NY, 1978, Geology; minor: aquatic ecology

### **PROFESSIONAL EXPERIENCE:**

1993- Senior Research Scientist, Inst. for Geophysics, Univ. Texas at Austin  
1981-93 Research Scientist, Inst. for Geophysics, Univ. Texas at Austin  
1979-80 Research Scientist Assoc. III, Inst. for Geophysics, Univ. Texas at Austin  
1978-79 Post-doct. Research Assoc., Dept. Geological Sciences, Cornell Univ., Ithaca, NY  
1973-78 Research Asst., Dept. Geological Sciences, Cornell Univ., Ithaca, NY  
1972-73 Research Asst., Dept. Geological Sciences, Brown Univ., Providence, RI  
1971-72 Teaching Asst., Dept. Geological Sciences, Brown Univ., Providence, RI

### **MEMBERSHIPS:**

American Geophysical Union American Quaternary Association  
Sigma Xi Geological Society of America International Society for Reef Studies

### **TEACHING EXPERIENCE:**

GEO 660 Field Mapping Course: 1984; 1985.  
GEO 312 K Physical Geology for Engineers 1988

### **FIELD PROJECTS:**

2007 Rapid Response to 1 April 2007 Ms ~8.0 Solomons Earthquake  
2006 Quick Response to 3 May 2006 large Tonga Earthquake: vertical crustal motions  
2005 Fossil Coral and Speleothem Paleoclimate Records from Papua New Guinea,  
Solomon Islands, and Vanuatu  
2005-2006 Seismic Profiling, Dredging, Multi-Beam Mapping, and Drilling of Modern  
Corals, Sabine Bank, Vanuatu  
2002 Chief Scientist, R/V LM Gould LMG02-9 Antarctic Peninsula GPS Tectonics  
2002 Coral Tectonics of Woodlark Rift Propagation into Australian plate  
2002 West Antarctic GPS Network: Installation and First Measurements  
2001 Fossil Coral Paleoclimate Records, Western Solomon Islands

1998 Chief Scientist: R/V LM Gould Cruise LMG98-10 GPS Antarctic Peninsula  
 1997 Chief Scientist: R/V Abel-J Cruise: GPS Antarctic Peninsula  
 1992 -Pres. Drilling live corals for Paleoclimate studies of the Western Pacific  
 1990- 2000 Deep drilling of reefs for the coral climate record from present to 30 Ka: Vanuatu, Papua New Guinea and Solomon Islands  
 1988 -Pres. Global Positioning System Project: Tectonics of SW Pacific Arc Systems  
 1976 -Pres. Uplifted Coral Reefs, Vanuatu & Solomon Islands: Tectonics and Paleoseismology  
 1993 -1997 Paleoseismology and crustal motions of the Sumatran Subduction Zone  
 1980-91 Neotectonics and Paleoseismology, Dominican Republic  
 1990 ODP Leg 134 Proponent and Shipboard Sedimentologist  
 1981 Co-Chief Scientist: North Atlantic Transect MCS cruise  
 1980 Science Staff: Old Bahama Channel MCS cruise  
 1974-1978 Emerged Coral Reefs and Neotectonics, Tonga and Fiji  
 1971-1974 Emerged Coral Reefs and Paleosea Levels, Barbados, W.I.

**ACTIVE OR INCOMING GRANTS (as of 8/22/2007):**

Jackson School of Geosciences: Taylor: A Rapid Response to the 1 April 2007 Ms ~8.0 Earthquake in the Solomon Islands to Conduct Crustal Motion Measurements Using GPS and Coral Geodesy  
 NSF-OCE Holocene/Deglacial Abrupt Climate Change and Variability of the Western Pacific Warm Pool from Multi-decadal to Century-scale Coral Climate Records  
 Jackson School of Geosciences Grant to supplement above NSF grant and to initiate speleothem studies  
 NSF: SGER: Seismic Profiling of Rapidly Subsiding Reefs on Sabine Bank, Vanuatu: Preparing for a Future Opportunity to Drill Ancient Reefs Representing Off-Peak and Lowstand Sea Levels During MIS 2-5  
 Jackson School of Geosciences Grant to supplement above NSF grant: Austin, Quinn, and Taylor Seismic Profiling of Rapidly Subsiding Reefs on Sabine Bank, Vanuatu: Preparing for a Future Opportunity to Drill Ancient Reefs Representing Off-Peak and Lowstand Sea Levels During MIS 2-5  
 NSF SGER: Collaborative Research: A Rapid Geophysical Response to the Great 2006 Tonga Earthquake  
 Jackson School of Geosciences: Taylor: Fellowship award 2006-2007

**PUBLICATIONS:**

Kilbourne, K.H., Quinn, T.M., Guilderson, T.P., Webb, R.S., and Taylor, F.W., 2007, Decadal-to interannual-scale source water variations in the Caribbean Sea recorded by Puerto Rican coral radiocarbon, *Climate Dynamics*, DOI 10.1007/s00382-007-0224-2  
 Holland, C.L., Scott, R., An, Soon-II, and Taylor, F.W., 2007, Propagating Decadal Sea Surface Temperature Signal Identified in Modern Proxy Records of the Tropical Pacific, *Climate Dynamics*, DOI 10.1007/s00382-006-0174-0.  
 Quinn, T. M. and Taylor, F.W., 2006, SST artifacts in coral proxy records produced by early marine diagenesis in a modern coral from Rabaul, Papua New Guinea, *Geophys. Res. Letts.*, 33, L04601, doi:10.1029/2005GL024972.  
 Quinn, T. M. and Taylor, F.W., and Crowley, T.M., 2006, Coral-based climate variability in the Western Pacific Warm Pool since 1867, *J. Geophys. Res.*, 111, doi: 10.1029/2005JC003243.

- Gallup C. D., D. M. Olson, R. L. Edwards, L. M. Gruhn, A. Winter, F. W. Taylor, 2006, Sr/Ca-Sea surface temperature calibration in the branching Caribbean coral *Acropora palmata*, *Geophys. Res. Lett.*, *33*, L03606, doi:10.1029/2005GL024935.
- Taylor, F.W., Bevis, M.G., Edwards, R. L., Cheng, H., Gray, S., Burr, G.S., Beck, W., Cutler, K.B., Phillips, D.A., Cabioch, G., Recy, J., and Mann, P., 2005, Rapid forearc uplift and subsidence caused by impinging bathymetric features: examples from the New Hebrides and Solomon Arcs, *Tectonics*, *24*, TC6005 10.1029/2004TC001650.
- Caccamise, D.J., Merrifield, M.A., Bevis, J., Foster, J., Taylor, F.W., Schenewerk, M.S., and Firing, Y.L., 2005, Sea Level Rise at Honolulu and Hilo, Hawaii: GPS Estimates of Differential Land Motion, *Geophys. Res. Lett.*, *32*, L03607, doi:10.1029/2004GL021380.
- Burr, G.S., Galang, C., Taylor, F.W., Gallup, C., Edwards, R.L., Cutler, K., Quirk, B., 2004, Radiocarbon results from a 13-KYR BP Coral from the Huon Peninsula, Papua, New Guinea, *Radiocarbon*, *46*, 1127-1160.
- Kilbourne, H., Quinn, T.E., Taylor, F.W., Delcroix, T., and Gouriou, Y. 2004, El Niño–Southern Oscillation–related salinity variations recorded in the skeletal geochemistry of a *Porites* coral from Espiritu Santo, Vanuatu, *Paleoceanography*, *19*, PA4002, doi:10.1029/2004PA001033.
- Stephans, C., Quinn, T.L., Taylor, F.W., and Corregge, T., 2004, Assessing the reproducibility of coral-based climate records, *Geophys. Res. Letts.*, *31*, L18210, doi:10.1029/2004GL020343.
- Schmidt, A., Burr, G.S., Taylor, F.W., O'Malley, J., and Beck, J.W., 2004, A semiannual radiocarbon record of a modern coral from the Solomon Islands, *Nucl. Instr. And Meth. In Phys. Res. B. Beam Interactions with Materials and Atoms*, *V 223-224*, 420-427.
- Kilbourne, H., Quinn, T.E., and Taylor, F.W., 2004, A fossil coral perspective on western tropical Pacific climate ~350 ka, *Paleoceanography*, *19*, PA1019, doi:10.1029/2003PA000944.
- Smalley, R., Kendrick, E., Bevis, M., Dalziel, I., Taylor, F., Lauria, E., Barriga, R., Casassa, G., Olivero, E., and Piana, E., 2003, Geodetic determination of relative motion and crustal deformation across the Scotia-South America plate boundary in eastern Tierra del Fuego, *Geochemistry Geophysics, Geosystems*, *v. 4*, 1070, doi:10.1029/2002GC000446.
- Cabioch, G., Cutler, K.B., Beck, J.W., Burr, G.S., Corregge, T., Edwards, R.L., and Taylor, F.W., 2003, Continuous reef growth during the last 23 ka in a tectonically active zone (Vanuatu, Southwest Pacific), *Quaternary Science Reviews*, *22*, 1771-1786.
- Cutler, K.B., Edwards, R.L., Taylor, F.W., Cheng, H., Adkins, J., Gallup, C.D., Cutler, P.M., Burr, G.S., Chappell, J. and Bloom, A.L. 2003. Rapid sea-level fall and deep-ocean temperature change since the last interglacial. *Earth & Planet. Sci. Letts.*, *206*, 253-271.
- Calmant, Stéphane; Pelletier, Bernard; Lebellegard, Pierre; Bevis, Michael; Taylor, Frederick W. and Phillips, David A., 2003, New insights on the tectonics along the New Hebrides subduction zone based on GPS results, *J. Geophys. Res.*, *108*, 2319, doi:10.1029/2001JB000644.
- Gallup, C.D., Cheng, H., Taylor, F.W., and Edwards, R.L., 2002, Direct determination of the timing of sea level change during Termination II, *Science*, *295*, 310-313.
- Zachariasen, J., F.W. Taylor, K. Sieh, and W.S. Hantoro, 2000, Modern vertical deformation above the Sumatran subduction zone: Paleogeodetic Insights from Coral Microatolls, *Bull. Seism. Soc. America*, *90*, 897-913.
- Buddemeier, R.W., and Taylor, F.W., 2000, Sclerochronology, in J.M., Noller, Sowers, J.S. and Lettis, W.R. (eds.), *Quaternary Geochronology: Methods and Applications*, *American Geophysical Union Reference Shelf 4*, 25-40.
- Cabioch, G., Taylor, F.W., Corregge, T., Recy, J., Edwards, R.L., Burr, G.S., Le Cornec, F., and

- Banks, K.A., 1999, Occurrence and significance of microbialites in the uplifted Tasmaloum reef (SW Espiritu Santo, SW Pacific), *Sedimentary Geology* 126, 305-316.
- Zachariassen, J., Sieh, K., Taylor, F.W., Edwards, R.L., and Hantoro, W.S., 1999, Submergence and uplift associated with the giant 1833 Sumatran subduction earthquake: Evidence from coral microatolls, *J. Geophys. Res.* 104, 895-919.
- Beck, J.W., Gagan, M., Tudhope, S., Recy, J., Taylor, F., Edwards, R.L., and Cabioch, G., 1998, Abrupt changes in early Holocene tropical sea surface temperature from coral Sr/Ca, U/Ca and <sup>18</sup>O thermometry, In: Eiji Matsumoto (editor), Quaternary Environmental Change in the Asia and Western Pacific Region, Proc. Third Int'l Marine Sci. Symp. on Coral Climatology by Annual Bands 16-17 Oct. 1997, Japan association for Quaternary Research 42-49.
- Burr, G.S., Beck, J.W., Taylor, F., Recy, J., Edwards, R.L., Cabioch, G., Correge, T., Donahue, D.J., and O'Malley, J.K., 1998, A coral-based radiocarbon calibration between 11.7 and 12.4 kyr BP derived from 230Th ages of corals from Espiritu Santo Island, Vanuatu, *Radiocarbon*, 40, 1093-1106.
- Mann, P., Prentice, C.S., Burr, G., Peña, L., and Taylor, F.W., 1998, Tectonic geomorphology and paleoseismicity of the Septentrional fault system, Dominican Republic, in Dolan, J., and Mann, P. (eds.), "Active Strike-Slip and Collisional Tectonics of the Northern Caribbean Plate Boundary Zone", *Geol. Soc. America Spec. Paper* 326, 63-123.
- Buddemeier, R.W., and Taylor, F.W., 1998, CHAPTER 4: SCLEROCHRONOLOGY, in Sowers, J.M., Noller, J.S. and Lettis, W.R. (eds.), Dating and earthquakes: review of Quaternary geochronology and its application to paleoseismology, U.S. Nuclear Regulatory Commission, NUREG/CR 5562, 2-43 - 2-66.
- Quinn, T.M., Crowley, T.J., Taylor, F. W., Henin, C., Joannot, P., and Join, Y., 1998, A multicentury stable isotope record from a New Caledonia coral: Interannual and decadal sea surface temperature variability in the Southwest Pacific since 1657 A.D., *Paleoceanography* 13, 412-426.
- Mann, P., Taylor, F.W., Lago, M.B., and Quarles, A., 1998, Late Quaternary uplift of the New Georgia Islands (Solomon island arc) in response to subduction of the Woodlark spreading center, *Tectonophysics* 295, 259-306.
- Calmant S., Pelletier B., Pillet, R., Régnier, M., Lebellegard, P., Maillard, D., Taylor, F.W., Bevis, M., and Recy, J., 1997, Aseismic and co-seismic motions in GPS series related to the Ms 7.3 July 13, 1994, Malekula earthquake, central New Hebrides subduction zone, *Geophys. Res. Letts.* 24, 3077-3080.
- Cabioch, G. Taylor, F.W., Recy, J., et al., 1998, Environmental and tectonic influences on growth and internal structure of a fringing reef at Tasmaloum (SW Espiritu Santo, New Hebrides Island Arc, SW Pacific), *Spec. Publs int. Ass. Sediment.*, 25, 261-277.
- Crowley, T.J., Quinn, T.M., and Taylor, F.W., Henin, C., and Joannot, P., 1997, Evidence for a volcanic cooling signal in a 335 year coral record from New Caledonia, *Paleoceanography* 12, 633-639.
- Beck, J.W., Recy, J., Taylor, F., Edwards, R.L., and Cabioch, G., 1997, Abrupt changes in early Holocene sea surface temperature derived from coral records, *Nature*, 385, 705-707.
- Quinn, T.M., Taylor, F. W., Crowley, T.J., and Link, S.M., 1996, Evaluation of sampling resolution in coral stable isotope records: A case study using monthly stable isotope records from New Caledonia and Tarawa, *Paleoceanography* 11, 529-542.
- Quinn, T.M., Crowley, T.J., and Taylor, F.W., 1996, New stable isotope results from a 173-year coral record from Espiritu Santo, Vanuatu, *Geophys. Res. Lett.*, 23, 3413-3416.
- Taylor, F.W. Bevis, M.G., Schutz, B.E., Kuang, D., Recy, J., Calmant, S.,

- Charley, D., Regnier, M., Perin, B., Jackson, M., and Reichenfeld, C., 1995, Geodetic measurements of convergence at the New Hebrides island arc indicate arc fragmentation due to an impinging aseismic ridge: *Geology*, 23, 1011-1014.
- Calmant, S., Lebellegard, P., Taylor, F., Bevis, M., Maillard, D., Recy, J., and Bonneau, J., 1995, Geodetic measurements of convergence across the New Hebrides subduction zone: *Geophys. Res. Letts.*, 22, 2573-2576.
- Chen, J.K., Taylor, F.W., Edwards, R.L., Cheng, H., and Burr, G.S., 1995, Recent emerged reef terraces of the Yenkahe resurgent block, Tanna, Vanuatu: Implications for volcanic, landslide, and tsunami hazards: *J. Geology*, 103, 577-590.
- Mann, P., Taylor, F.W., Edwards, R.L., and Ku, T.L., 1995, Actively evolving microplate formation by oblique collision and sideways motion along strike-slip faults: an example from the northeastern Caribbean plate margin: *Tectonophysics*, 246, 1-69.
- Min, G.R., Edwards, R.L., Taylor, F.W., Recy, J., Gallup, C.D., and Beck, J.W., 1995, Annual cycles of U/Ca in coral skeletons and U/Ca thermometry: *Geochim. Cosmochim. Acta.*, 59, 2025-2042.
- Bevis, M., Taylor, F.W., Schutz, B.E., Recy, J., Isacks, B.L., Helu, S., Singh, R., Kendrick, E., Stowell, J., Taylor, B., and Calmant, S., 1995, Geodetic observations of convergence and back-arc spreading at the Tonga island arc, *Nature*, 374, 249-251.
- Quinn, T. M., Taylor, F. W., and Halliday, A.N., 1994, Sr isotope dating of neritic carbonates at Bougainville Guyot (Site 831), *Proc. ODP, Sci. Results*, 134, College Station, TX (Ocean Drilling Program), 89-95.
- Taylor, F. W., Quinn, T. M., Gallup, C. G., and Edwards, R. L., 1994, Quaternary plate convergence rates at the New Hebrides arc from the chronostratigraphy of Bougainville Guyot (Site 831), *Proc. ODP, Sci. Results*, 134, College Station, TX (Ocean Drilling Program) 47-57.
- Quinn, T. M., Taylor, F. W., and Crowley, T.J., 1993, A 173 year stable isotope record from a tropical South Pacific coral: *Quaternary Science Reviews* 12, 407-418.
- Burr, G., Edwards, R. L., Donahue, D. J., Druffel, E., and Taylor, F. W., 1992, Mass spectrometric  $^{14}\text{C}$  and U-Th measurements in corals, *Radiocarbon*, 34, 611-618.
- Edwards, R. L., Beck, J.W., Burr, G.S., Donahue, D.J., Chappell, J.M.A., Bloom, A.L., Druffel, E.R.M., and Taylor, F.W., 1993, A large drop in atmospheric  $^{14}\text{C}/^{12}\text{C}$  and reduced melting in the Younger Dryas, documented with  $^{230}\text{Th}$  ages of corals, *Science*, 260, 962-968.
- Prentice, C. S., Mann, P., Taylor, F. W., Burr, G., and Valastro, S., 1993, Paleoseismicity of the North American-Caribbean plate boundary (Septentrional Fault), Dominican Republic, *Geology*, 21, 49-52.
- Schutz, B. E., Bevis, M. G., Taylor, F. W., Kuang, D., Watkins, M., Recy, J., Perin, B., and Peyroux, O., 1993, The Southwest Pacific GPS Project: Geodetic results from burst 1 of the 1990 field campaign, *Bull. Geodesique*.67, 224-240.
- Beck, W. Edwards, R. L., Ito, E., Taylor, F. W., Recy, J., Rougerie, F., Joannot, P., and Henin, C., 1992, Sea surface temperature from coral skeletal Sr/Ca ratios, *Science*, 257,644-647.
- Taylor, F. W. 1992, Quaternary vertical tectonics of the central New Hebrides Arc, In *Proc. Ocean Drilling Prog., Init. Repts*, 134, 33-42.
- Taylor, F. W., Recy, J., Larue, B.M., Bevis, M., and Schutz, B., 1991, A geodetically positioned shallow platform for tectonics and oceanographic research, in Kumar, M., and Maul, G. A. (eds.), Marine Positioning into the 1990's, *Proc. International Symp. on Marine Positioning*, October 15-19, 1990, (Rosenstiel School of Marine and Atmospheric Science) Miami, Florida, PIP Printing, Rockville, Maryland, 278-287.

- Taylor, F.W., and Mann, P., 1991, Late Quaternary Folding of Coral Reef Terraces, Barbados, *Geology*, 19, 103-106.
- Taylor, F. W., R. L. Edwards, G. J. Wasserburg, and C. Frohlich, 1990, Seismic Recurrence Intervals and timing of aseismic subduction inferred from emerged corals and reefs of the central New Hebrides (Vanuatu) Island Arc, *J. Geophys. Res.*, 95, 393-408.
- Edwards, R. L., F. W. Taylor, and G. J. Wasserburg, 1989, Dating earthquakes with high precision thorium-230 ages of very young corals, *Earth and Planetary Science Letts.*, 90, 371-381.
- Austin, J.A., F.W. Taylor, and C. D. Cagle, 1989, Seismic stratigraphy of the central Tonga arc system, *Marine and Petroleum Geology*, v. 6, 71-92.
- Edwards, R. L., F. W. Taylor, J. H. Chen, and G. J. Wasserburg, 1988, High precision thorium-230 dating of corals using thermal ionization mass spectrometry: applications to paleoseismology, A. J. Crone and E. M. Omdahl (eds.), *Directions in Paleoseismology*, U. S. Geol. Surv. Open File Report 87-673, 30.
- Taylor, F.W., Frohlich, C., Lecolle, J., and Strecker, M., 1987, Analysis of Partially Emerged Corals and Reef Terraces in the Central Vanuatu Arc: Comparison of Contemporary Coseismic and Nonseismic with Quaternary Vertical Movements, *J. Geophys. Res.*, 92, 4905-4933.
- Strecker, M. R., Bloom, A. C., Gilpin, L. M., and Taylor, F. W., 1986, Karst morphology of uplifted Quaternary coral limestone terraces: Santo Island, Vanuatu: *Z. Geomorph., N.F.*, 30, 387-405.
- Taylor, F. W., Jouannic, C., and Bloom, A.L., 1985, Quaternary uplift history of the Torres Islands, northern New Hebrides frontal arc: Comparison with Santo and Malekula Islands, central New Hebrides frontal arc, *J. Geology*, v. 93, 419-438.
- Taylor, F. W., Mann, P., Burke, K., and Valastro, S., 1985, Stratigraphy and radiocarbon chronology of a subaerially exposed Holocene coral reef, Dominican Republic, *J. Geology*, v. 93, 311- 332.
- Mann, P., Taylor, F. W., Burke, K., and Kulstad, R., 1984, Subaerially exposed Holocene coral reef, Enriquillo Valley, Dominican Republic, *Geol. Soc. America Bull.*, v. 95, 1084-1092.
- Jouannic, C., Taylor, F. W., Bloom, A. L., 1982, Sur la surrection et la deformation d'un arc jeune: l'arc des Nouvelles Hebrides: In: Contribution a l'etude geodynamique du sudouest Pacifique, *Travaux et documents de L'O.R.S.T.O.M.*, No. 147, 223-246.
- Taylor, F. W., Jouannic, C., Gilpin, L., and Bloom, A. L., 1981, Coral colonies as monitors of changes in relative level of the land and sea: Application to vertical tectonism: *Fourth International Coral Reef Symposium, Manila, The Phillipines*, v. 2, 485-492.
- Buskirk, R. E., Taylor, F. W., O'Brien, W. P., and Maillet, P., 1981, Seasonal growth patterns and mortality of corals in the New Hebrides: *Fourth International Coral Reef Symposium, Manila, The Phillipines*, v. 2, 197-200.
- Jouannic, C., Taylor, F. W., and Bloom, A. L., 1980, Late Quaternary uplift history from emerged reef terraces on Santo and Malekula Islands, central New Hebrides island arc: *UN ESCAP, CCOP/SOPAC, Tech. Bull. no. 3*, 91-108.
- Taylor, F. W., Isacks, B. L., Jouannic, C., Bloom, A. L., and Dubois, J., 1980, Coseismic and Quaternary vertical movements, Santo and Malekula Islands, New Hebrides island arc: *J. Geophys. Res.*, v. 84, no. B-10, 5367-5381.
- Gaven, C., Bernat, M., Jouannic, C., and Taylor, F.W., 1980, Mouvement Verticaux des Nouvelles-Hebrides pendant les derniers 120,000 ans. Datations de coraux par la methode Io-U: *Comptes Rendus Acad. Sci. Paris, Serie D*, v. 290, 175-178.
- Bender, M. L., Fairbanks, R. G., Taylor, F. W., Matthews, R. K., Goddard, J., and Broecker, W.

- S., 1980, Uranium-series dating of the Pleistocene reef tracts of Barbados, West Indies: *Geol. Soc. America Bull.*, v. 90, 577-594.
- Bloom, A. L., Jouannic, C., and Taylor, F. W., 1978, Preliminary radiometric ages from the uplifted Quaternary coral reefs of Efate, New Hebrides: Appendix 1, in A. Macfarlane, *Geology of Efate, New Hebrides Geol. Surv. Regional Rept.*, 47-49.
- Taylor, F. W., and Bloom, A. L., 1977, Coral reefs on tectonic blocks, Tonga island arc: *Third International Coral Reef Symposium, Miami*, v. 2, 275-281.
- Bender, M. L., Taylor, F. W., and Matthews, R. D., 1973, Helium-uranium dating of corals from middle Pleistocene Barbados reef tracts: *Quaternary Research*, 3, 142-146.

### **EOS Cover**

Taylor, F. W., 1985, Tectonically emerged living corals: *EOS Trans.*, v. 66, p. 555 and 568.

### **Book Review**

Taylor, F. W., 1984, Review: *Geomorphology of the Great Barrier Reef* by David Hopley, *American Jour. of Science*, v. 284, p. 1082-1084.

### **ABSTRACTS (past five years):**

- Cabioch, G., Montaggioni, L., and Taylor, F.W., 2007, Reef growth during the last deglacial sea level rise in the South-West Pacific in New Caledonia and Vanuatu, 1st International Workshop on the COREF Project, Japan.
- Chen, M., Frohlich, C., Taylor, F.W., 2006, Seismological, Geological and Geomorphic Aspects of Arc Segmentation and Their Relation to Subducting Bathymetric Features in the Solomon Island Arc, SW Pacific Ocean, *AGU Abst., EOS*
- DeLong, K.L., Quinn, T.L., and Taylor, F.W. 2006, Reconstructing 20th Century SST Variability in the Southwest Pacific: A Replication Study Using Multiple Coral Sr/Ca Records From New Caledonia, *AGU Abst., EOS*
- Quinn, T.M., Taylor, F.W., Cheng, H., and Edwards, R.L., 2006, Surface Temperature Variations in the Western Pacific Warm Pool in the Pre-Industrial Period, *AGU Abst., EOS*.
- Dalziel, I., Smalley, R., Kendrick, E., Bevis, M., and Taylor, F., 2006, The West Antarctic GPS Network (WAGN), PoleNET Meeting, Dresden.
- Taylor, F.W., Austin, J.A., and Quinn, T.M., 2006, Consideration of the Role of Vertical Tectonics in Selection of IODP Reef Drilling Sites, NSF Sponsored Workshop for IODP drilling in the Caribbean, Austin, TX
- G. S. Burr, F. W. Taylor, J. Pandolfi, J. W. Beck, A. J. T. Jull and Thierry Correge, 2006, Modern and Holocene reservoir ages of South Pacific corals, 19th International <sup>14</sup>C Conference, 3rd-7th April 2006, Oxford, England
- DeLong, K.L., Quinn, T.L., and Taylor, F.W., 2005, Sea Surface Temperature Variability in the Southwest Tropical Pacific since 1679 AD derived from Coral Skeletal Geochemistry, *AGU Abst., EOS*.
- Taylor, F.W., Quinn, T.M., Scott, R.S., Holland, C.L., Edwards, R.L., Cheng, H., Burr, G.S., 2005, Paleoclimate of the Western Pacific Warm Pool: 75 yr  $\delta^{18}\text{O}$  and Sr/Ca Coral Record From ~13 ka for the Northeast (Huon Peninsula) Coast of Papua New Guinea, AGU Chapman Conference 5-8 Feb. 2005, Univ. Hawaii, Honolulu.
- Freiburger, N., Gallup, C.D., Taylor, F.W., Edwards, R.L., and Cheng, H., 2005, New dates and revelations on the last interglacial terrace, Barbados, West Indies, *AGU Abst., EOS*

- Biddulph, D.L., Beck, J.W., Burr, G.S., Donahue, D.J.,<sup>1</sup> and Taylor, F.W., 2005 Measurements of  $^{129}\text{I}$  in Coral Skeletons from the South Pacific Ocean, 10th International Conference on Accelerator Mass Spectrometry (September 5-10, 2005).
- Carey, A., Burr, G.S., Beck, J.W., Taylor, F.W., and Correge, T., Reservoir ages from South Pacific corals, 10th International Conference on Accelerator Mass Spectrometry (September 5-10, 2005).
- Gruhn, L.M., Gallup, C.D., Ravelo, C., Riker-Coleman, C., Taylor, F.W., Webster, J., Silver, E.A., and Potts, D.C., 2005, Seasonal  $\delta^{18}\text{O}$  and Sr/Ca records From Submerged Pleistocene Fossil Corals in the Western Equatorial Pacific, *AGU Abst., EOS*.
- Holland, C.L., Scott, R., Taylor, F.W., Propagating Decadal SST Signal Identified in Modern Proxy Records of the Tropical Pacific, AGU Chapman Conference 5-8 Feb. 2005, Univ. Hawaii, Honolulu.
- Quinn, T.M., Taylor, F.W., and Edwards, R.L., 2005, Coral-based Climate Records of Post-Glacial Climate Variability in the WPWP, NSF Conference on the Holocene, May 2a005, Washington, D.C.
- Taylor, F.W., T. M. Quinn, R. S. Scott, C.L. Holland, R.L. Edwards, H. Cheng, and G.S. Burr 2005, Paleoclimate of the Western Pacific Warm Pool: 75 yr  $\delta^{18}\text{O}$  and Sr/Ca Coral Record From ~13 ka for the Northeast (Huon Peninsula) Coast of Papua New Guinea, Chapman Conf. Abst. Tropical-Extratropical Climatic Teleconnections, A Long-Term Perspective, Feb. 8-11, 2005, Honolulu, HI.
- C. L. Holland, R.S. Scott, F. Taylor and others, 2005, Propagating Decadal SST Signal Identified in Modern Proxy Records of the Tropical Pacific, Chapman Conf. Abst. Tropical-Extratropical Climatic Teleconnections, A Long-Term Perspective, Feb. 8-11, 2005, Honolulu, HI.
- Quinn, TM, Taylor, FW, Cheng, H, Edwards, RL, Burr, G, Chen, Y, 2004, Select, High-Resolution Windows Into Sub-Centennial-Scale Climate Variability in the Western Pacific Warm Pool Between 7 and 12 ka, *AGU Abst., EOS*.
- DeLong, C., Quinn, T. M., and Taylor, F.W., 2004, Sea Surface Temperature Variability in the Southwest Pacific as Reconstructed from the Skeletal Geochemistry of a Tricentennial Coral from New Caledonia, *AGU Abst., EOS*.
- Kilbourne<sup>1</sup>, H.K., Quinn, T.M., Taylor, F.W., Webb, R.S., Winter, A., Guilderson, T., 2004, Caribbean Climate Reconstructions Using Coral Skeletal Geochemistry: Initial Results From Puerto Rico, *AGU Abst., EOS*.
- Mann, P., Taylor, F., Gahagan, L., and Watson, L., 2004, Title Rapid Kinematic and Tectonic Variations Along the 1400-km-long Australia-Woodlark Plate Boundary Zone, Papua New Guinea and Woodlark Basin, *AGU Abst., EOS*.
- Liu, J., Terrence M. Quinn, Thomas J. Crowley, Frederick W. Taylor, and William T. Hyde, 2004, A coral record from the West Pacific Warm Pool (New Georgia), *AGU Abst., EOS*...
- Cabioch, G., Taylor, F.W., Cutler, K.B., Edwards, R.L., Burr, G.S., Beck, W., Correge, T., 2004, Sea level changes inferred from growth patterns of the uplifted reefs from Vanuatu (Southwest Pacific), Int. Geol. Congress 32, Abstract.
- Taylor, F.W., Edwards, R.L., Cutler, K.B., Cheng, H., Burr, G.S., Beck, J.W., Cabioch, G., Recy, J., and Correge, T., 2004, Results from a land-based strategy for drilling the coral record of Last Glacial Maximum to late Holocene transgression on tectonically uplifting Western Pacific coasts, Int. Geol. Congress 32, Abstract.

- Kilbourne, H.K., Quinn, T.M., Taylor, F.W., Webb, R.S., Winter, A., Guilderson, T., 2004, Caribbean Climate Reconstructions Using Coral Skeletal Geochemistry: Initial Results From Puerto Rico, *AGU Abst., EOS*
- Junhua Liu, Terrence M. Quinn, Thomas J. Crowley, Frederick W. Taylor, and William T. Hyde, 2004, A coral record from the West Pacific Warm Pool (New Georgia), *AGU Abst., EOS* ..,
- Taylor, F.W., C. Frohlich, P. Mann, G.S. Burr, W. Beck, R.L. Edwards, and D.A. Phillips, Episodic Forearc Uplift Related to Subduction of the Woodlark Basin, Western Solomons Arc: Intermittent Aseismic Slip or Multi-Century Earthquake Recurrence Intervals?, *AGU Abst., EOS*, 84 (46, Abstract T42C-04), 2003.
- Kilbourne, K.H., T.M. Quinn, F.W. Taylor, T. Delcroix, and Y. Gouriou, SSPCZ- and ENSO-related Salinity Variations Recorded in the Skeletal Geochemistry of a Porites Coral from Espiritu Santo, Vanuatu, *AGU Abst., EOS*, 84 (46, Abstract PP21D-07), 2003.
- Mann, P., F. Taylor, L. Lavier, and H. Van Avendonk, Geological Constraints and Numerical Models of Concave-downward Normal Faulting and Metamorphic Core Complex Formation in Eastern Papua New Guinea, *AGU Abst., EOS*, 84 (46, Abstract T12A-0445), 2003.
- Quinn, T.M., F.W. Taylor, R. Edwards, G. Burr, H. Cheng, and Y. Chen, A Coral Perspective on Holocene Climate Variability in the Western Pacific Warm Pool, *AGU Abst., EOS*, 84 (46, Abstract PP31A-07), 2003.
- Rastegar, A., M. Fuller, and F. Taylor, Paleomagnetic Records of Corals From the Solomon Islands, *AGU Abst., EOS*, 84 (46, Abstract GP11C-0271), 2003.
- Reimer, P.J., M.G. Baillie, E. Bard, J.W. Beck, C.E. Buck, P.G. Blackwell, G.S. Burr, K.B. Cutler, P.E. Damon, R.L. Edwards, R.G. Fairbanks, M. Friedrich, T.P. Guilderson, A.G. Hogg, K.A. Hughen, B. Kromer, G. McCormac, C.B. Ramsey, R.W. Reimer, S. Remmele, J.R. Southon, M. Stuiver, F.W. Taylor, J. van der Plicht, and C.E. Weyhenmeyer, IntCal04: A New Consensus Radiocarbon Calibration Dataset from 0-26 ka BP, *AGU Abst., EOS*, 84 (46, Abstract V32C-1023), 2003.
- Stephans, C.L., T.M. Quinn, F.W. Taylor, and T. Corregge, Assessing the Reproducibility of Coral-based Climate Records: A Multi-proxy Replication Test using Three Porites lutea Coral Heads from a Reef Offshore Amedee Island, New Caledonia, *AGU Abst., EOS*, 84 (46, Abstract PP52A-0955), 2003.
- Watson, L., P. Mann, and F. Taylor, Neotectonic Geomorphology of the Owen Stanley Oblique-slip Fault System, Eastern Papua New Guinea, *AGU Abst., EOS*, 84 (46, Abstract T22A-0505), 2003.
- Christie Galang<sup>1</sup>, George Burr<sup>1</sup>, Fred Taylor<sup>2</sup>, Kirsten Cutler<sup>3</sup> and R. Lawrence Edwards 2003, A high resolution radiocarbon calibration between 13.0 and 13.1 kyr BP based on <sup>230</sup>Th-dated coral; Proc.: 18th Intl Radiocarbon Conf., Wellington, New Zealand, 1-5 September, 2003.
- Konrad Hughen, M.G.L. Baillie, Edouard Bard, Warren Beck, Caitlin Buck, Kirsten Cutler, Paul Damon, Richard Fairbanks, Michael Friedrich, Thomas Guilderson, Chanda Herring, Bernd Kromer, F.G. McCormac, Christopher Bronk Ramsey, Paula Reimer, R.W. Reimer, Sabine Remmele, John Southon, Minze Stuiver, Johann van der Plicht, C. E. Weyhenmeyer, George Burr, R. Lawrence Edwards, Fred Taylor, Paul Blackwell, 2003, Extension and revision of the radiocarbon calibration dataset: Part 2 IntCal04 beyond tree rings 26.0 - 12.4 ka cal BP, Proc.: 18th Intl Radiocarbon Conf., Wellington, New Zealand, 1-5 September, 2003.
- Quinn, T.M., Taylor, F.W., Crowley, T.J., and Stephans, C., 2002, Coral-based Climate Record from the Western Pacific Warm Pool, *AGU Abst., EOS*.
- Phillips, D.A., Bevis, M., Taylor, F.W., Papabatu, A.K., and Kendrick E., 2002, New Estimates of Crustal Velocity in the Solomon Islands, *AGU Abst., EOS*.

Mann, P., and Taylor F.W., 2002, Emergent Late Quaternary Coral Reefs of Eastern Papua New Guinea Constrain the Regional Pattern of Oceanic Ridge Propagation, *AGU Abst., EOS.*

#### **EQUIPMENT DEVELOPMENT:**

Hydraulic core drilling system for coring living corals underwater funded by NSF Tectonics. Prototype built by Texas Process Equipment, Houston, TX. Eddie Wheeler of Georgetown, TX, made many improvements to the basic design of the drill head and the power unit. About 25 units are in use in at least seven countries.

Water hydraulic drill that uses sea water as a hydraulic fluid instead of oil. This drill also is designed for drilling live or fossil corals underwater in locations where spillage of even biodegradable hydraulic oil would be unacceptable. Funded by NOAA; development nearing completion.

#### **M.S. THESIS:**

The Uplifted Reef Tracts of Barbados, West Indies: Detailed Mapping and Radiometric Dating of Selected Areas, Unpub. M. S. Thesis, Brown University, Providence, R. I., 226 p, 1974.

#### **PH.D. DISSERTATION:**

Quaternary tectonic and sea-level history, Tonga and Fiji, Southwest Pacific, Ph. D. Dissertation, Cornell University, Ithaca, N. Y., 355 p., 1978.

#### **THESIS ADVISORS:**

- M. S. Brown University: R.K. Matthews (chairman)
- Ph. D. Cornell University: A. L. Bloom (chairman), Bryan Isacks, Dan Karig, John Anderson

#### **GRADUATE STUDENT COMMITTEES:** Total number =7

- Clinton D. Cagle: Univ. Texas MS Thesis: Seismic stratigraphy of the central Tongan arc
- Mark Helper: Univ. Texas Ph.D. Dissertation: Structural, metamorphic and geochronologic constraints on the origin of the Condrey Mountain Schist, north central Klamath Mountains, California
- Jeffrey Chen: Univ. Texas MS Thesis: Quaternary Crustal Motions of Tanna Island and the Yenkahe Horst area near Yasour Volcano from Uplifted Coral Reefs
- D. Kuang: Univ. Texas Ph.D. Dissertation; GPS results from the Tonga-Fiji area
- David A. Phillips - Univ. of Hawaii Ph.D. aspirant, GPS measurements of subduction deformation at the New Hebrides and Solomons Arcs
- Pat Mickler – Speleothem Chemistry, Ph.D. Univ. Texas at Austin
- Ming-Chu Chen - Forearc Segmentation of the Solomon Islands Arc, M.S.. Univ. Texas at Austin

#### **UNDERGRADUATE MENTORING**

Brandon Johnson: 2004-2006. Brandon completed a research project course for credit with Jay Banner. I supervised his research which he completed in August 2006: Title: Fidelity of oxygen isotope data from an Efate Island, Vanuatu, coral as a proxy for recorded sea surface temperature

#### **SCIENTISTS WITH WHOM THERE HAS BEEN A LONG-TERM ASSOCIATION OR COLLABORATION ON PROJECT OR PAPER WITHIN THE LAST 48 MONTHS (outside the Univ. of Texas at Austin):**

Jess Adkins: Cal Tech

Warren Beck -Univ. Arizona-Tucson

Michael Bevis - Ohio State Univ.  
Dana Caccamise - Ohio State Univ.  
Yue-Gau Chen: Nat'ITaiwan Univ.  
T. J. Crowley - Texas A & M  
Paul Cutler – Univ. Minn.  
James Foster – Univ. Hawaii  
C. D. Gallup - Univ. Minn.-Duluth  
Emi Ito - Univ. of Minnesota  
K.H. Kilbourne-NOAA  
Mark Merrifield – Univ. Hawaii  
David Phillips - UNAVCO  
Bob Smalley - Univ. Memphis  
French IRD Scientists: G. Cabioch; S. Calmant, B. Pelletier, P. Lebellegard

George Burr - Univ. Arizona-Tucson  
John Chappell–Austr.Natl.Univ.  
H. Cheng – Univ. Minn.  
Kirsten Banks-Cutler- Univ. Minn.  
R. L. Edwards - Univ. Minn.  
Michael Fuller - Univ. Hawaii  
Sarah Gray - Univ. San Diego  
Eric Kendrick - Ohio State Univ.

G.R. Min - Univ. Minn.  
Kerry Sieh - Cal. Tech.  
J. Zachariasen – Whitman College