GSA Data Repository Item 2017342
Skrivanek, A., Dutton, A., Stemann, T., Vyverberg, K., and Mitrovica, J.X., 2017, Evidence of tectonism based on differential uplift of the Falmouth Formation of Jamaica: GSA Bulletin, https://doi.org/10.1130/B31796.1.

DATA REPOSITORY

TABLE DR1. STUDY SITE LOCATIONS ACROSS JAMAICA

Site Name*	Latitude (˚N)	Longitude (˚W)
East Rio Bueno Harbour	18°28'30.84"	77°27'01.48"
Queen's Landing	18˚28'27.02"	77˚27'01.93"
Benchmark	18˚28'31.88"	77˚27'02.54"
West Rio Bueno Harbour	18˚28'38.18"	77˚27'42.30"
West Port Maria, Near Oracabessa	18˚24'51.47"	76˚56'17.78"
Galina Sign	18˚24'45.38"	76˚53'56.02"
Buccaneer	17˚53'19.52"	77˚46'43.11"
Paul's Point	17˚53'04.23"	77˚46'15.86"
Great Bay	17˚52'02.96"	77˚44'34.40"

* Referenced in Figures 1, 3, 5 and 7

TABLE DR2. MAXIMUM ELEVATIONS OF FALMOUTH FORMATION EXPOSURES SURVEYED AT 9 STUDY SITES

Site Name*	Elevation with respect to MSL (m)
Galina Sign	6.63
Oracabessa East	8.73
Oracabessa West†	5.66
East Rio Bueno (ERB) Benchmark	9.82
Queen's Landing	8.25
ERB Slump	5.99
ERB Cactus	5.22
West Rio Bueno§	3.94
Great Bay	1.32
Paul's Point	1.63
Buccaneer	2.91

*Referenced in Figure 3

† Top of the same stratigraphic unit on the western side of the same site as Oracabessa East, displaced to the west by ~ 3 m along a fault

§ Notch measured inland of this study site at 7.68 m

TABLE DR3. NORMALIZED FINGERPRINTS FOR GREENLAND, WEST ANTARCTIC AND EAST ANTARCTIC ICE SHEET MELT

Melt Source	Fingerprint (% of peak MIS 5e highstand)
West Antarctic Ice Sheet	1.27
East Antarctic Ice Sheet	1.14
Greenland Ice Sheet	0.9

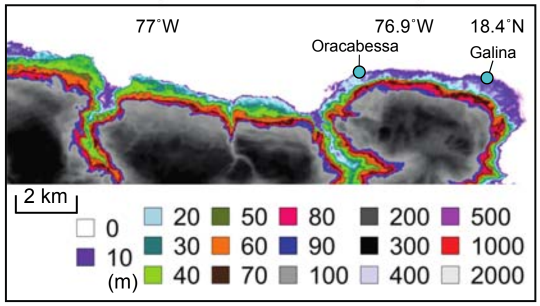

Figure DR1. NASA Shuttle Radar Topography Mission (SRTM) 1 Arc-Second Global void-filled elevation data at a resolution of 1 arc-second (30 meters) showing discontinuous uplifted terraces and elevation changes along the northern coastline between study sites. Colors refer to 10-m elevation intervals. Data available from the U.S. Geological Survey.

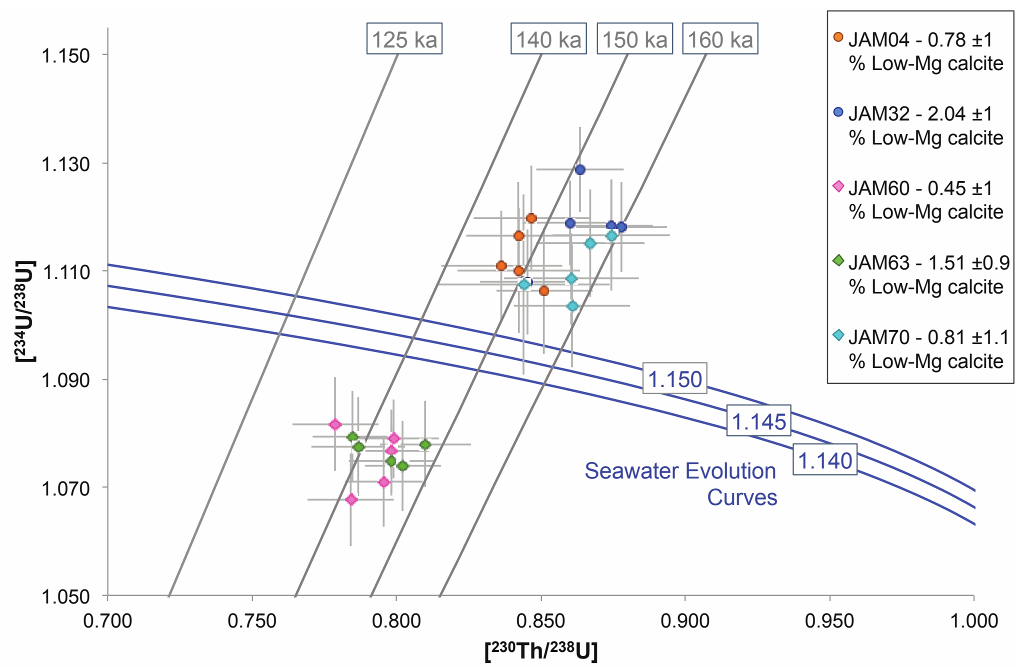

Figure DR2. Laser ablation U-Th age data. Blue curves represent closed-system decay from an initial [^{234}U/^{238}U] activity ratio of modern seawater (145 ± 5 ‰). Error bars represent 2 standard deviations from the mean (2σ). U-Th ages were calculated with decay constants from Cheng et al. (2013). From left to right, vertical grey lines represent closed-system isochrons for 125 ka, 140 ka, 150 ka and 160 ka. Corals that seemed well-preserved in hand-sample show [^{234}U/^{238}U] values that depart from the seawater evolution curve in patterns commonly attributed to diagenetic alteration (eg. Blanchon et al., 2009). Coral % Low-Mg calcite of subsamples collected for U-Th dating as listed in the figure legend show the conversion of ~ < 2 % of primary coral aragonite to calcite, but some of the primary aragonite may in fact be secondary.

TABLE DR4. CORAL SAMPLE INFORMATION

Location	Coral Sample ID	Description	Elevation with respect to MSL(m)	Low-Mg calcite (%)
East Rio Bueno Slump	JAM04A	*Orbicella* sp.	3.64	0.79
Oracabessa	JAM32	*Colpophyllia natans*	2.39	2.04
Oracabessa	JAM33	*Acropora palmata*	1.89	0.96
Buccaneer*	JAM60	*A. palmata*	2.83	0.45
Great Bay*	JAM63	*A. palmata*	0.41	1.51
Great Bay*	JAM70	*A. palmata*	0.52	0.81

* Site from the south coast.

TABLE DR5. LASER ABLATION MC-ICP-MS U-TH MEASUREMENTS AND AGES.

Coral Sub-sample ID	^{238}U (ppm)	^{232}Th (ppb)	[^{230}Th/^{238}U]†	2σ	[^{234}U/^{238}U]†	2σ	Date (ka)	2σ	$\delta^{234}U_i$ (‰)§	2σ	Age (ka) ± 2σ#
JAM04A_01	4	0	0.842	0.018	1.116	0.010	147	7	176	15	148.7 ± 7.4
JAM04A_02	4	0	0.847	0.020	1.120	0.010	148	7	182	14	
JAM04A_03	3	0	0.836	0.021	1.111	0.010	147	8	168	15	
JAM04A_04	4	0	0.851	0.017	1.106	0.012	154	7	164	17	
JAM04A_05	3	0	0.842	0.021	1.110	0.012	149	8	168	17	
JAM32_01	4	0	0.874	0.014	1.118	0.009	158	6	185	13	154.3 ± 6.3
JAM32_02	5	0	0.864	0.015	1.129	0.008	151	6	197	12	
JAM32_03	4	0	0.878	0.016	1.118	0.008	160	7	185	13	
JAM32_04	4	0	0.860	0.017	1.119	0.008	153	6	183	12	
JAM32_05	4	0	0.845	0.017	1.108	0.010	151	7	165	14	
JAM33_01	6	0	1.101	0.016	1.099	0.008	383	57	292	40	319.8 ± 3.7
JAM33_02	5	0	1.096	0.013	1.108	0.008	344	36	286	23	
JAM33_03	3	0	1.012	0.018	1.075	0.009	279	26	164	18	
JAM33_04	5	0	1.117	0.022	1.108	0.011	395	88	330	68	
JAM33_05	5	0	1.083	0.019	1.095	0.009	353	51	256	32	
JAM60_01*	4	0	0.779	0.015	1.082	0.009	135	5	120	12	141.5 ± 5.3
JAM60_02*	4	0	0.799	0.016	1.079	0.007	143	6	118	11	
JAM60_03*	4	0	0.798	0.013	1.077	0.008	144	5	115	11	
JAM60_04*	4	0	0.784	0.015	1.068	0.009	141	6	101	13	
JAM60_05*	5	0	0.795	0.014	1.071	0.008	144	5	107	12	
JAM63_01*	4	0	0.798	0.015	1.075	0.006	144	5	112	9	142.7 ± 5.4
JAM63_02*	4	0	0.785	0.014	1.079	0.008	138	5	117	12	
JAM63_03*	2	0	0.787	0.016	1.078	0.009	139	6	115	13	
JAM63_04*	4	0	0.810	0.016	1.078	0.008	148	6	118	12	
JAM63_05*	4	0	0.802	0.013	1.074	0.008	146	5	112	12	
JAM70_01*	2	0	0.918	0.037	1.122	0.022	175	19	199	33	166.1 ± 1.3
JAM70_02*	2	0	0.890	0.039	1.120	0.018	164	17	191	28	
JAM70_03*	3	0	0.899	0.029	1.106	0.011	174	14	172	18	
JAM70_04*	3	0	0.865	0.028	1.124	0.015	153	11	190	22	
JAM70_05*	2	0	0.894	0.025	1.099	0.014	175	13	162	21	
JAM70LB_06*	3	0	0.844	0.030	1.107	0.017	150	12	164	25	156.7 ± 8.8
JAM70LB_07*	4	0	0.861	0.020	1.104	0.011	158	9	162	17	
JAM70LB_08*	3	0	0.860	0.023	1.109	0.008	156	9	169	13	
JAM70LB_09*	5	0	0.867	0.019	1.115	0.010	157	8	179	15	
JAM70LB_10*	4	0	0.874	0.020	1.117	0.010	159	8	183	16	

* Site from the south coast.

† Square brackets denote activity ratios

§ Subscript "i" refers to initial $\delta^{234}U$ activity ratio.

Ages for each coral are inverse variance-weighted means of data obtained from coral subsamples. All ages are calculated using decay constants from Cheng et al. (2013).

TABLE DR6. MAXIMUM ELEVATIONS OF LAST INTERGLACIAL SHORELINES ACROSS THE CIRCUM-CARIBBEAN REGION

Location	Elevation (m)	References
Aruba	+15	Steinstra, 1983; Alexander, 1961
Abaco Island, Bahamas	+3	Chen et al., 1991; Hearty et al., 2007
Great Inagua, Bahamas	+1.5	Chen et al., 1991, White and Curran, 1995, Carew and Mylroie, 1995, White et al., 1998, Kindler et al., 2007
San Salvador, Bahamas	+2.5	Chen et al., 1991, White and Curran, 1995, Carew and Mylroie, 1995, White et al., 1998
Southern Barbados (Rendezvous Hill) *	+70	Speed and Cheng, 2014
Belize barrier reef *	-15	Gischler, 2006
Grape Bay, Bermuda	+5.5	Muhs et al., 2002; Hearty et al., 2007
Portete, Costa Rica *	+17.5	Bergoeing, 2006
Northwest coast, St. Croix	+1.5	Toscano et al., 2011 (citing Hubbard et al., 1989)
Baracoa Quarry, Cuba (NW, near Havana)	+2 – +3	Toscano et al., 1999
Guantanamo Bay, Cuba (SE) *	+14	Muhs et al., 2015
Curacao *	+15	eg. Pandolfi and Jackson, 2001, Pandolfi et al., 1999,
Key Largo, Florida	+3.5	eg. Muhs et al., 2011
Windley Key, Florida	+5.5	eg. Fruijtier et al., 2000, Muhs et al., 2011
Grand Cayman West	+2.8	eg. Woodroffe et al., 1983; Jones and Hunter, 1990, Hunter and Jones, 1996
Gonave Island, Haiti	+6	Mann et al., 1995
Nicholas Terrace, Northwest Peninsula, Haiti *	+52	Woodring, 1925, Dodge et al., 1983, Dumas et al., 2006
St Marc Penninsula, Haiti *	+30	Mann et al., 1995
Southeast Dominican Republic, between Santo Domingo and La Romana	+3 - +6	Klaus and Budd, 2003 (citing Geister, 1982)
Mona Island, Puerto Rico	+5	Frank et al., 1998, Taggart, 1993
Margarita, Venezuela	+6	Danielo, 1976
Xcaret, Yucatán, Mexico	+5.8	Blanchon et al., 2009

* Sites associated with tectonic movement since the Last Interglacial