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Flank margin caves as proxies for the evolution of Cozumel Island, Mexico

by:

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Table S1. Cozumel cave inventory, including all type of cave recorded on the island. UTM coordinate Zone 16N.Speleogenesis refers to the main mechanism. Abbreviations: A = available data. NA = no data available. IC= isolated cave. Gch= globular chamber. WGch= globular chamber U Cen = undifferentiated cenote. S Cen= shallow cenote. D Cen= deep cenote. H Cen= horizontal cenote. V zone= vadose zone. Mp= maze pattern. ST= solution tube. Sea C= sea cave. FMC= flank margin cave. Reference data (a) Sprouse, 2020. (b) Mejía-Ortíz et al., 2007. (c) This paper.

Register number	Cave name	Longitude X	Latitude Y	Cave survey	Cave features	Speleogenesis	Cave type
1	Cueva San Gervasio 1 [a]	516153.51	2267003.47	NA	IC, Gch	Solution	FMC
2	Cueva San Gervasio 2 [a]	516221.51	2266980.47	NA	IC, Gch	Solution	FMC
3	Cueva Palma secuestrada [a]	500421	2252084	A	IC, Gch	Solution	FMC
4	Cueva Palmar [a]	500406	2252043	A	IC, Gch	Solution	FMC
5	Cueva Ferchango [a]	500406	2251952	A	IC, Gch	Solution	FMC
6	Aktun Balam [c]	500848	2251664	A	IC, Gch	Solution	FMC
7	Cueva Cedral track [c]	500428.42	2252479.78	A	IC, Gch	Solution	FMC
8	Cueva de los Murciélagos [a]	500374	2253839	NA	IC, Gch	Solution	FMC
9	Cueva San German [a]	501903	2254660	NA	IC, Gch	Solution	FMC
10	Cueva San Gabriel [a]	501889	2254670	NA	IC, Gch	Solution	FMC
11	Cueva Ramon [a]	506088	2247630	NA	IC, Gch	Solution	FMC
12	Cueva Mosquito [a]	506118	2247679	NA	IC, Gch	Solution	FMC
13	Cueva Andale 1 [a]	511630	2251967	NA	IC, Gch	Solution	FMC
14	Cueva Andale 2 [a]	511623	2251989	NA	IC, Gch	Solution	FMC
15	Cueva Escondida [a]	500508	2251566	NA	IC, Gch	Solution	FMC
16	Cueva Magnolia [a]	506432	2247343	A	IC, Gch	Solution	FMC
17	Cueva Buenavista [a]	506381	2247785	A	IC, Gch	Solution	FMC
18	Cueva Nohoch Hool [c]	503498.38	2252065.18	A	IC, Gch	Solution	FMC
19	Cueva Murcielagos BH [c]	514808.41	2260396.35	A	IC, Gch	Solution	FMC
20	Cueva Cantera Transversal [c]	514585.91	2260522.43	A	IC, Gch	Solution	FMC
21	Cueva Piramide [a]	506436	2247817	A	IC, Gch	Solution	FMC
22	Cueva Chaac Mool [a]	506571	2248118	A	IC, Gch	Solution	FMC
23	Cueva Kana Nah [c]	515720.73	2266945.51	A	IC, Gch	Solution	FMC
24	Cueva El Lina [c]	516155	2266803	A	IC, Gch	Solution	FMC
25	Cueva Chichan Nah [c]	516174	2266747	A	IC, Gch	Solution	FMC
26	Cueva Estacionamiento San Gervasio [c]	516137.3	2266494.16	A	IC, Gch	Solution	FMC
27	Cueva Pelovino [a]	517430.24	2265351.89	NA	IC, Gch	Solution	FMC
28	Cueva Mariposa [a]	502831	2253819	NA	IC, Gch	Solution	FMC
29	Cueva Ariadna [a]	502686	2253819	NA	IC, Gch	Solution	FMC
30	Cueva Ruinas [a]	506033	2247238	NA	IC, Gch	Solution	FMC
31	Cueva de la llanta [a]	506262	2247352	NA	IC, Gch	Solution	FMC
32	Cueva Espinosa [a]	506509	2247484	NA	IC, Gch	Solution	FMC
33	Cueva Gilberto [a]	506366	2247600	NA	IC, Gch	Solution	FMC
34	Cueva Polo [a]	506440	2247795	NA	IC, Gch	Solution	FMC
35	Cueva del Cementerio [a]	506547	2247785	NA	IC, Gch	Solution	FMC
36	Cueva del camino BH [c]	506553	2247995	NA	IC, Gch	Solution	FMC
37	Chen Chile [a]	500942	2255119	NA	IC, Gch	Solution	FMC
38	Cueva Yaxché [a]	502279	2244998	NA	IC, Gch	Solution	FMC
39	Cenote Basurero [a]	507830.29	2252820.02	NA	U Cen	Solution	FMC Multiphase
40	Cenote Chempita [b]	503168.89	2251091.83	A	IC, D Cen >50m deep	Solution	FMC Multiphase
41	Cenote Chenchon [c]	503449.35	2254097.97	A	IC, D Cen >50m deep	Solution	FMC Multiphase
42	Cenote Chechen Ha [a]	503459.15	2254101.07	NA	IC, D Cen >50m deep	Solution	FMC Multiphase
43	Cenote Bambu [b]	511875.85	2266048.5	A	D Cen >50m deep	Solution	Multiphase cave
44	Cenote Chu-ha (San Francisco) [b]	504634.56	2265737.59	NA	D Cen <20m deep	Solution	Multiphase cave
45	Aerolito [b]	502280.28	2263079.49	A	S Cen, D Cen, Mp, average depth 12m, maximum depth 30m	Solution	Multiphase cave
46	Xkan-ha [b]	504780.16	2262970.98	NA	D Cen =35 m deep	Solution	Multiphase cave
47	Km 1 (QS) [b]	500902.3	2260037.38	A	S Cen,Mp, average depth 6m	Solution	Multiphase cave
48	Roka Bomba (QS) [b]	501127	2260158	A	S Cen,Mp, average depth 6m	Solution	Multiphase cave
49	Cilpa (QS) [b]	501158.97	2260818.51	A	S Cen,Mp, average depth 6m	Solution	Multiphase cave
50	C1 [b]	500895.35	2260043.84	A	S Cen,Mp, average depth 6m	Solution	Multiphase cave

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Table S1 (cont.). Cozumel cave inventory, including all type of cave recorded on the island. UTM coordinate Zone 16N.Speleogenesis refers to the main mechanism. Abbreviations: A = available data. NA = no data available. IC= isolated cave. Gch= globular chamber. WGch= globular chamber U Cen = undifferentiated cenote. S Cen= shallow cenote. D Cen= deep cenote. H Cen= horizontal cenote. V zone= vadose zone. Mp= maze pattern. ST= solution tube. Sea C= sea cave. FMC= flank margin cave. Reference data (a) Sprouse, 2020. (b) Mejía-Ortíz et al., 2007. (c) This paper.

Register number	Cave name	Longitude X	Latitude Y	Cave survey	Cave features	Speleogenesis	Cave type
51	S1 [b]	500363.94	2259950.06	A	S Cen,Mp, average depth 6m	Solution	Multiphase cave
52	Sifa/Cenote Tristeza [b]	501407.91	2260262.75	A	S Cen,Mp, average depth 6m	Solution	Multiphase cave
53	No name [b]	501918.49	2260295.99	A	S Cen,Mp, average depth 6m	Solution	Multiphase cave
54	Cueva Quebrada [a]	497936.3	2255467.58	NA	S Cen,Mp, average depth 6m	Solution	Multiphase cave
55	Cenote Cocodrilo [b]	497970.98	2253902.02	A	S Cen,Mp, average depth 3m	Solution	Multiphase cave
56	Sea cave Muelle Palancar [c]	498227	2256894	NA	direct sea contact	Marine erosion	Sea cave
57	Sea cave Faro Celarain [c]	501266	2241598	NA	direct sea contact	Marine erosion	Sea cave
58	Sea cave Mirador 1 [c]	504717	2244263	NA	direct sea contact	Marine erosion	Sea cave
59	Sea cave Mirador 2 [c]	504810	2244398	NA	direct sea contact	Marine erosion	Sea cave
60	Sea cave Mirador 3 arco [c]	505817	2245275	NA	direct sea contact	Marine erosion	Sea cave
61	Sea cave Chen río arco [c]	511376	2251095	NA	direct sea contact	Marine erosion	Sea cave
62	Antigua Sea cave Cantera Payo [c]	502944.23	2244749.22	NA	highly eroded, irregular walls	Marine erosion	Sea cave
63	Laguna Verde [a]	507885.57	2250710.35	NA	S Cen	Solution	Shallow cenote
64	Cenote del Dr. Villanueva [b]	511874.88	2267431.83	NA	S Cen <5m deep	Solution	Shallow cenote
65	Universidad de Quintana Roo [b]	505648.32	2265891.6	NA	S Cen <5m deep	Solution	Shallow cenote
66	Cenote del Aeropuerto [a]	507345.75	2270512.26	NA	S Cen <5m deep	Solution	Shallow cenote
67	Cenote Oriental [a]	517779	2265405	NA	S Cen <5m deep	Solution	Shallow cenote
68	Rancho San Miguel 1 [b]	510571.64	2267277.27	NA	S Cen <5m deep	Solution	Shallow cenote
69	Cueva Eclipse [a]	510597	2267159	NA	S Cen <5m deep	Solution	Shallow cenote
70	Cenote Chico [a]	504407.31	2260735.74	NA	S Cen <5m deep	Solution	Shallow cenote
71	Cueva del Diablo/ Cueva dos potrillos [b]	501121.27	2261414.63	NA	S Cen <5m deep	Solution	Shallow cenote
72	Cenote Sacbe [a]	500336	2259387	NA	S Cen <5m deep	Solution	Shallow cenote
73	Rancho Juvencio El Cedral [b]	500144.96	2250827.88	NA	S Cen <5m deep	Solution	Shallow cenote
74	C-1 Rancho el Chino El Cedral [b]	500579.89	2248983.48	NA	S Cen <5m deep	Solution	Shallow cenote
75	C-2 Rancho el Chino El Cedral [b]	506814.52	2246833.02	NA	S Cen <5m deep	Solution	Shallow cenote
76	Chit 1 [c]	503461	2262818	NA	S Cen, H Cen <6m deep	Solution	Shallow cenote
77	Chit 2 [c]	503415	2262835	NA	S Cen, H Cen <6m deep	Solution	Shallow cenote
78	Chit 3 [c]	503556	2262820	NA	S Cen, H Cen <6m deep	Solution	Shallow cenote
79	Rancho San Miguel Cenote [a]	510571.16	2268045.78	NA	S Cen <5m deep	Solution	Shallow cenote
80	Cenote Grande [a]	504297.06	2260137.5	NA	S Cen <5m deep	Solution	Shallow cenote
81	San Andrés El Cedral [a]	499130.4	2253594.52	NA	S Cen <5m deep	Solution	Shallow cenote
82	C-3 Rancho el Chino El Cedral [a]	508117.54	2250829.8	NA	S Cen <5m deep	Solution	Shallow cenote
83	Cenote de la Vuelta [a]	500719	2255306	NA	S Cen <5m deep	Solution	Shallow cenote
84	Cenote Bomba [a]	500004	2254003	NA	S Cen <5m deep	Solution	Shallow cenote
85	Cenote Clara [a]	505170	2246273	NA	S Cen <5m deep	Solution	Shallow cenote
86	Cenote del Abrigo [a]	502918.8	2244762.53	NA	S Cen <5m deep	Solution	Shallow cenote
87	Cenote Iglesia Buenavista [a]	507222	2248463	NA	S Cen <5m deep	Solution	Shallow cenote
88	Cenote de la Cantera/ Jaime ha [a]	503000	2244674	NA	S Cen <5m deep	Solution	Shallow cenote
89	C 2m pit [a]	511914	2252480	NA	ST WGCh	Solution	Solution pipe
90	C 2m pit dos [a]	511869	2252636	NA	ST WGCh	Solution	Solution pipe
91	C 2 m pit to crawl [a]	511947	2252654	NA	ST WGCh	Solution	Solution pipe
92	C Crawlway [a]	511968	2252661	NA	WGch	Solution	Undifferentiated
93	C Crawlway dos [a]	511980	2252654	NA	WGch	Solution	Undifferentiated
94	C. 1.5m pit [a]	512014	2252641	NA	ST WGch	Solution	Solution pipe
95	Cenote Outflow [a]	502824.35	2264710.46	NA	Submarine spring	Solution	Submarine spring
96	Tafoni Coconuts [c]	513355	2254338	NA	Rock shelter WGch	Aeolian erosion	Tafoni
97	Cenote Duda 1 [a]	510615.63	2251799.77	NA	U Cen	Solution	Undifferentiated cenote
98	Cenote Duda 2 [a]	511347	2253258	NA	U Cen	Solution	Undifferentiated cenote