Global unvegetated coastal aquifers

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The groundwater flow and nutrient transport in unvegetated coastal aquifers have been the subject of decades. However, the nutrient penetration and degradation caused by tidal pumps and microbial functions are poorly known. To shed light on a comprehensive estimation of global unvegetated coastal aquifers, we perform classification using 258 oft-cited references. Our findings suggest that widespread unvegetated coastal aquifers share some common characteristics, as detailed in the main text and Table S1.

Table S1. Global distribution of oft-cited unvegetated coastal aquifers.

No.	Location	Number of references	Longitude	Latitude	Sedimentary structure
1	Puget Sound, Washington, USA	4[1–4]	-122.47	47.72	Sand and mud
2	Elkhorn Slough, California, USA	9[5–13]	-121.79	36.81	Sand
3	Santa Barbara, California, USA	4[14–17]	-119.70	34.42	Sand
4	Huntington beach, California, USA	7[18–24]	-118.00	33.66	Sand and mud
5	Baffin Bay, Texas, USA	2[25,26]	-97.58	27.27	Sand, white aragonite laminae and mud cracks
6	Laguna Madre, Texas, USA	6[27–32]	-97.43	26.69	Sand and mud
7	Matagorda Peninsula, Texas, USA	1[33]	-96.02	28.58	Sand
8	Follets Island, Texas, USA	1[33]	-95.17	29.04	Sand
9	Galveston Island State Park, Texas, USA	1[33]	-94.97	29.20	Sand
10	Tampa Bay, Florida, USA	1[34]	-82.54	27.76	Sand and clay
11	Altamaha River, Georgia, USA	3[35–37]	-81.85	31.67	Sand and mud
12	Beaufort, North Caroline, USA	8[38–45]	-76.66	34.72	Sand, mud, clay and shells
13	Chesapeake Bay, USA	1[46]	-76.11	37.52	Mud
14	Cape Henlopen, Delaware, USA	6[47–52]	-75.09	38.80	Sand
15	Waquoit Bay, Massachusetts, USA	21[53–73]	-70.52	41.56	Sand
16	Shackleford Banks, north Carolina, USA	1[74]	-76.63	34.68	Sand
17	Rarotonga, Cook Islands	3[75–77]	-159.78	-21.23	Sand
18	Guerrero Negro, Baja California Sur, Mexico	16[78–93]	-114.06	27.96	Sand
19	Eleuthera Island, Bahamas	4[94–97]	-76.19	24.93	Lithifying and non-lithifying
20	Exuma Cays, Bahamas	1[98]	-75.83	23.53	Stromatolites
21	Puerto Rosales, Argentina	1[99]	-62.08	-38.90	Sand
22	Paso Seco, Chile	2[100,101]	-73.16	-37.00	Sand and mud
23	Baffin Island, canada	6[102–107]	-70.97	65.42	Stromatolites
24	Ebro Delta, Spain	12[108–119]	0.70	40.69	Sand
25	Roscoff, France	3[120–122]	-3.99	48.73	Sand and mud
26	Camargue, France	12[123–134]	4.47	43.59	Sand, clay and mud
27	Etang de Berre, French	2[135,136]	5.11	43.45	Mud
28	Texel, North Sea, Netherlands	4[137–140]	4.80	53.08	Sand
29	Schiermonnikoog, Wadden Sea, Netherlands	12[141–152]	6.23	53.49	Sand
30	Heringsplaat, Wadden Sea, Netherlands	1[153]	7.13	53.29	Mud
31	Dollard Estuary, Netherlands	1[154]	7.19	53.28	Mud
32	Spiekeroog, Wadden Sea, Germany	22[155–176]	7.69	53.77	Sand and mud
33	Mellum, North Sea, Germany	7[177–183]	8.15	53.72	Sand, silt and mud
34	Jadebusen Bay, Wadden Sea, Germany	1[184]	8.22	53.48	Sand and mud
35	Sylt, Wadden Sea, Germany	5[185–189]	8.32	54.91	Sand
36	Sankt Peter-Ording, Wadden Sea, Germany	1[190]	8.65	54.30	Sand
37	Aggersund, Denmark	1[191]	9.29	57.00	Sand
38	Eckernfarde Bay, Baltic Sea	2[192,193]	9.95	54.46	Mud
39	Aarhus, Denmark	7[194–200]	10.33	56.15	Sand, silt and a brown surface layer
40	Alandaya,Tunisian	1[178]	11.09	33.38	Sand
41	Eastern Cape, South Africa	12[201–212]	25.69	-34.02	Stromatolites and sand
42	Gulf of Aqaba, Red Sea	10[213–222]	34.83	29.42	Stromatolites, sand and mudstone
43	Dor Beach, Israel	3[223–225]	34.91	32.58	Sand
44	Arabian Gulf	10[226–235]	47.96	29.37	Sand and clotted mud
45	Abu Dhabi, UAE	1[236]	54.38	24.45	Mud
46	Perhentian Islands, Malaysia	1[237]	102.75	5.91	Sand and silty
47	Shark Bay, Western Australia	9[238–246]	113.30	-25.78	Stromatolites and sand
48	Gongcheonpo Beach, Korea	1[247]	126.64	33.27	Sand
49	Hiroshima Bay, Japan	1[248]	132.39	34.30	Sand
50	Jogashima, Yokosuka, Japan	1[249]	139.62	35.13	Colored blooms in tide pool
51	Yatsuhigata, Narashino, Japan	1[249]	140.00	35.68	Mud
52	Missionary Bay, Australia	1[250]	146.21	-18.24	Sand, silt and mud
53	Heron Island, Australia	7[251–257]	151.91	-23.44	Sand
54	Korogoro Creek, Australia	1[258]	153.04	-31.04	Sand

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