Supplementary Materials

Review

Ecological-Health Risk Assessments of Copper in the sediments: A review and synthesis

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Table S1. The minimum range of Cu concentrations (mg/kg dry weight) in the sediments cited from 125 papers the literature published between 1980 and 2022, and their calculated values of geoaccumulation index (Igeo), contamination factor (CF), ecological risk (ER), hazard quotient ingestion (HQ_{ing}), hazard quotient inhalation (HQ_{inh}), hazard quotient derma contact (HQ_{der}), hazard index (HI) for adults and children based on the cited Cu data.

						Adults	Adults	Adults	Adults	Children	Children	Children	Children	
		Cu	Igeo	CF	ER	HQ_{ing}	HQ_{inh}	HQ_{der}	HI	HQ_{ing}	HQ_{inh}	HQ_{der}	HI	Ref
1	Tolo Harbour, Hong Kong	6.80	-1.66	0.48	2.38	3.12E-04	2.85E-08	3.16E-05	3.43E-04	2.32E-03	6.33E-08	1.24E-05	2.34E-03	1
2	Belfast Lough, Ireland	6.50	-1.72	0.45	2.27	2.98E-04	2.72E-08	3.03E-05	3.28E-04	2.22E-03	6.05E-08	1.18E-05	2.23E-03	2
3	Chao Phraya Estuary, Thailand	3.34	-2.68	0.23	1.17	1.53E-04	1.40E-08	1.55E-05	1.69E-04	1.14E-03	3.11E-08	6.09E-06	1.15E-03	3
4	Ganges Estuary, India	4.00	-2.42	0.28	1.40	1.83E-04	1.68E-08	1.86E-05	2.02E-04	1.37E-03	3.72E-08	7.29E-06	1.37E-03	4
5	Java Sea, Indonesia	6.00	-1.84	0.42	2.10	2.75E-04	2.51E-08	2.79E-05	3.03E-04	2.05E-03	5.58E-08	1.09E-05	2.06E-03	5
6	Fly River Delta, Papua New Guinea	20.00	-0.10	1.40	6.99	9.17E-04	8.38E-08	9.31E-05	1.01E-03	6.84E-03	1.86E-07	3.65E-05	6.87E-03	6
7	Singapore River	10.00	-1.10	0.70	3.50	4.59E-04	4.19E-08	4.65E-05	5.05E-04	3.42E-03	9.30E-08	1.82E-05	3.44E-03	7
8	Tokyo Bay, Japan	16.60	-0.37	1.16	5.80	7.61E-04	6.95E-08	7.73E-05	8.38E-04	5.67E-03	1.54E-07	3.03E-05	5.70E-03	8
9	Bintulu coastal waters, Malaysia	7.00	-1.62	0.49	2.45	3.21E-04	2.93E-08	3.26E-05	3.54E-04	2.39E-03	6.51E-08	1.28E-05	2.41E-03	9
10	Juru River, Malaysia	14.00	-0.62	0.98	4.90	6.42E-04	5.86E-08	6.52E-05	7.07E-04	4.78E-03	1.30E-07	2.55E-05	4.81E-03	10
11	Victoria Harbour, Hong Kong	45.20	1.08	3.16	15.80	2.07E-03	1.89E-07	2.10E-04	2.28E-03	1.54E-02	4.21E-07	8.24E-05	1.55E-02	11
12	Scheldt Estuarine, Netherlands	1.00	-4.42	0.07	0.35	4.59E-05	4.19E-09	4.65E-06	5.05E-05	3.42E-04	9.30E-09	1.82E-06	3.44E-04	12
13	Johore Straits, Malaysia	10.80	-0.99	0.76	3.78	4.95E-04	4.52E-08	5.03E-05	5.46E-04	3.69E-03	1.00E-07	1.97E-05	3.71E-03	13
14	Osaka Bay, Japan	18.00	-0.25	1.26	6.29	8.25E-04	7.54E-08	8.38E-05	9.09E-04	6.15E-03	1.67E-07	3.28E-05	6.18E-03	14
15	Izmir Bay, Turkey	4.00	-2.42	0.28	1.40	1.83E-04	1.68E-08	1.86E-05	2.02E-04	1.37E-03	3.72E-08	7.29E-06	1.37E-03	15
16	Offshore and intertidal west coast of Peninsular Malaysia	0.25	-6.42	0.02	0.09	1.15E-05	1.05E-09	1.16E-06	1.26E-05	8.54E-05	2.33E-09	4.56E-07	8.59E-05	16
17	Pearl River Delta, China	8.70	-1.30	0.61	3.04	3.99E-04	3.64E-08	4.05E-05	4.39E-04	2.97E-03	8.09E-08	1.59E-05	2.99E-03	17
18	Coastal Alang-Sosiya, India	85.20	1.99	5.96	29.79	3.91E-03	3.57E-07	3.97E-04	4.30E-03	2.91E-02	7.93E-07	1.55E-04	2.93E-02	18
19	Semarang, Indonesia	33.00	0.62	2.31	11.54	1.51E-03	1.38E-07	1.54E-04	1.67E-03	1.13E-02	3.07E-07	6.01E-05	1.13E-02	19

20	Kelana Jaya Lakes, Malaysia	7.37	-1.54	0.52	2.58	3.38E-04	3.09E-08	3.43E-05	3.72E-04	2.52E-03	6.86E-08	1.34E-05	2.53E-03	20
21	South west coast, Spain	41.00	0.93	2.87	14.34	1.88E-03	1.72E-07	1.91E-04	2.07E-03	1.40E-02	3.81E-07	7.47E-05	1.41E-02	21
22	Mangrove area, Singapore	7.06	-1.60	0.49	2.47	3.24E-04	2.96E-08	3.29E-05	3.57E-04	2.41E-03	6.57E-08	1.29E-05	2.43E-03	22
23	Ebrie Lagoon, Ivory Coast	3.00	-2.84	0.21	1.05	1.38E-04	1.26E-08	1.40E-05	1.52E-04	1.03E-03	2.79E-08	5.47E-06	1.03E-03	23
24	Western Moreton Bay, Australia	1.00	-4.42	0.07	0.35	4.59E-05	4.19E-09	4.65E-06	5.05E-05	3.42E-04	9.30E-09	1.82E-06	3.44E-04	24
25	Balaton Lake, Hungary	0.70	-4.94	0.05	0.24	3.21E-05	2.93E-09	3.26E-06	3.54E-05	2.39E-04	6.51E-09	1.28E-06	2.41E-04	25
26	Mandovy Estuary, India	11.50	-0.90	0.80	4.02	5.27E-04	4.82E-08	5.35E-05	5.81E-04	3.93E-03	1.07E-07	2.10E-05	3.95E-03	26
27	Kranji and Tekong Island, Singapore	7.70	-1.48	0.54	2.69	3.53E-04	3.22E-08	3.58E-05	3.89E-04	2.63E-03	7.16E-08	1.40E-05	2.65E-03	27
28	Izmit Bay, Turkey	60.60	1.50	4.24	21.19	2.78E-03	2.54E-07	2.82E-04	3.06E-03	2.07E-02	5.64E-07	1.10E-04	2.08E-02	28
29	Agbabu Bitumen Deposit Area, Nigeria	2.91	-2.88	0.20	1.02	1.33E-04	1.22E-08	1.35E-05	1.47E-04	9.95E-04	2.71E-08	5.30E-06	1.00E-03	29
30	Tg. Piai, Peninsular Malaysia	3.43	-2.64	0.24	1.20	1.57E-04	1.44E-08	1.60E-05	1.73E-04	1.17E-03	3.19E-08	6.25E-06	1.18E-03	30
31	Mvudi River, South Africa	13.20	-0.70	0.92	4.62	6.05E-04	5.53E-08	6.14E-05	6.67E-04	4.51E-03	1.23E-07	2.41E-05	4.54E-03	31
32	Lakes of southwest Japan	13.00	-0.72	0.91	4.55	5.96E-04	5.44E-08	6.05E-05	6.57E-04	4.44E-03	1.21E-07	2.37E-05	4.47E-03	32
33	Kaoshiung Harbor, Taiwan	5.00	-2.10	0.35	1.75	2.29E-04	2.09E-08	2.33E-05	2.53E-04	1.71E-03	4.65E-08	9.11E-06	1.72E-03	33
34	Pearl River Estuary, China	8.90	-1.27	0.62	3.11	4.08E-04	3.73E-08	4.14E-05	4.50E-04	3.04E-03	8.28E-08	1.62E-05	3.06E-03	34
35	Western Xiamen Bay, China	19.00	-0.17	1.33	6.64	8.71E-04	7.96E-08	8.84E-05	9.60E-04	6.49E-03	1.77E-07	3.46E-05	6.53E-03	35
36	Sepang River, Malaysia	2.88	-2.90	0.20	1.01	1.32E-04	1.21E-08	1.34E-05	1.45E-04	9.84E-04	2.68E-08	5.25E-06	9.90E-04	36
37	Polluted drainage sediments from Peninsular Malaysia	8.77	-1.29	0.61	3.07	4.02E-04	3.67E-08	4.08E-05	4.43E-04	3.00E-03	8.16E-08	1.60E-05	3.01E-03	37
38	Victoria Harbour, Hong Kong	16.00	-0.42	1.12	5.59	7.34E-04	6.70E-08	7.45E-05	8.08E-04	5.47E-03	1.49E-07	2.92E-05	5.50E-03	38
39	Manchar Lake, Pakistan	15.60	-0.46	1.09	5.45	7.15E-04	6.53E-08	7.26E-05	7.88E-04	5.33E-03	1.45E-07	2.84E-05	5.36E-03	39
40	East, South and West coasts of Peninsular Malaysia	12.90	-0.73	0.90	4.51	5.92E-04	5.40E-08	6.00E-05	6.52E-04	4.41E-03	1.20E-07	2.35E-05	4.43E-03	40

41	Old Nakagawa River, Japan	340.00	3.99	23.78	118.88	1.56E-02	1.42E-06	1.58E-03	1.72E-02	1.16E-01	3.16E-06	6.20E-04	1.17E-01	41
42	Southern part of Peninsular Malaysia	9.48	-1.18	0.66	3.31	4.35E-04	3.97E-08	4.41E-05	4.79E-04	3.24E-03	8.82E-08	1.73E-05	3.26E-03	42
43	Six intertidal area and four urban drainage sites, Selangor, Malaysia	6.64	-1.69	0.46	2.32	3.04E-04	2.78E-08	3.09E-05	3.35E-04	2.27E-03	6.18E-08	1.21E-05	2.28E-03	43
44	Yangtze River Estuary, China	11.70	-0.87	0.82	4.09	5.36E-04	4.90E-08	5.45E-05	5.91E-04	4.00E-03	1.09E-07	2.13E-05	4.02E-03	44
45	Yangtze River, China	6.87	-1.64	0.48	2.40	3.15E-04	2.88E-08	3.20E-05	3.47E-04	2.35E-03	6.39E-08	1.25E-05	2.36E-03	45
46	Dumai coast, Indonesia	1.61	-3.74	0.11	0.56	7.38E-05	6.74E-09	7.49E-06	8.13E-05	5.50E-04	1.50E-08	2.93E-06	5.53E-04	46
47	Sri Serdang Industrial Area, Malaysia	21.70	0.02	1.52	7.59	9.95E-04	9.09E-08	1.01E-04	1.10E-03	7.42E-03	2.02E-07	3.96E-05	7.46E-03	47
48	Laguna Lake, Philippines	9.70	-1.14	0.68	3.39	4.45E-04	4.06E-08	4.51E-05	4.90E-04	3.32E-03	9.02E-08	1.77E-05	3.33E-03	48
49	Northwestern part of Peninsular Malaysia	4.79	-2.16	0.33	1.67	2.20E-04	2.01E-08	2.23E-05	2.42E-04	1.64E-03	4.46E-08	8.73E-06	1.65E-03	49
50	Urban river Suzhou City, China	41.00	0.93	2.87	14.34	1.88E-03	1.72E-07	1.91E-04	2.07E-03	1.40E-02	3.81E-07	7.47E-05	1.41E-02	50
51	Kebir Rhumel Basin, Algeria	9.00	-1.25	0.63	3.15	4.13E-04	3.77E-08	4.19E-05	4.55E-04	3.08E-03	8.37E-08	1.64E-05	3.09E-03	51
52	Beysehir Lake, Turkey	24.00	0.16	1.68	8.39	1.10E-03	1.01E-07	1.12E-04	1.21E-03	8.20E-03	2.23E-07	4.37E-05	8.25E-03	52
53	West Port, Malaysia	7.40	-1.54	0.52	2.59	3.39E-04	3.10E-08	3.44E-05	3.74E-04	2.53E-03	6.88E-08	1.35E-05	2.54E-03	53
54	Perlis River, Malaysia	7.31	-1.55	0.51	2.56	3.35E-04	3.06E-08	3.40E-05	3.69E-04	2.50E-03	6.80E-08	1.33E-05	2.51E-03	54
55	West coast of Peninsular Malaysia	5.59	-1.94	0.39	1.95	2.56E-04	2.34E-08	2.60E-05	2.82E-04	1.91E-03	5.20E-08	1.02E-05	1.92E-03	55
56	Hugli River Estuary and Sundarban Mangrove Wetland, India	11.60	-0.89	0.81	4.06	5.32E-04	4.86E-08	5.40E-05	5.86E-04	3.96E-03	1.08E-07	2.11E-05	3.99E-03	56
57	Lake Pamvotis, Greece	15.00	-0.52	1.05	5.24	6.88E-04	6.28E-08	6.98E-05	7.58E-04	5.13E-03	1.40E-07	2.73E-05	5.15E-03	57
58	Sundarban, India and Bangladesh	36.00	0.75	2.52	12.59	1.65E-03	1.51E-07	1.68E-04	1.82E-03	1.23E-02	3.35E-07	6.56E-05	1.24E-02	58
59	Shuangtaizi Estuary, China	1.80	-3.57	0.13	0.63	8.25E-05	7.54E-09	8.38E-06	9.09E-05	6.15E-04	1.67E-08	3.28E-06	6.18E-04	59
60	Old Yellow River Estuary, China	18.30	-0.23	1.28	6.40	8.39E-04	7.66E-08	8.52E-05	9.24E-04	6.25E-03	1.70E-07	3.34E-05	6.29E-03	60
61	Libyan Mediterranean coast	9.10	-1.24	0.64	3.18	4.17E-04	3.81E-08	4.24E-05	4.60E-04	3.11E-03	8.47E-08	1.66E-05	3.13E-03	61

62	Qinghai section of the Yellow River, China.	11.80	-0.86	0.83	4.13	5.41E-04	4.94E-08	5.49E-05	5.96E-04	4.03E-03	1.10E-07	2.15E-05	4.05E-03	62
63	Serbia	11.50	-0.90	0.80	4.02	5.27E-04	4.82E-08	5.35E-05	5.81E-04	3.93E-03	1.07E-07	2.10E-05	3.95E-03	63
64	Laizhou Bay, China	7.57	-1.50	0.53	2.65	3.47E-04	3.17E-08	3.52E-05	3.82E-04	2.59E-03	7.04E-08	1.38E-05	2.60E-03	64
65	Xiangjiang River and Dongting Lake, China	29.00	0.44	2.03	10.14	1.33E-03	1.21E-07	1.35E-04	1.46E-03	9.91E-03	2.70E-07	5.29E-05	9.96E-03	65
66	Gulf of Thailand	6.00	-1.84	0.42	2.10	2.75E-04	2.51E-08	2.79E-05	3.03E-04	2.05E-03	5.58E-08	1.09E-05	2.06E-03	66
67	Leizhou Peninsula, China	3.37	-2.67	0.24	1.18	1.55E-04	1.41E-08	1.57E-05	1.70E-04	1.15E-03	3.14E-08	6.14E-06	1.16E-03	67
68	Gulf of Guinea	0.20	-6.74	0.01	0.07	9.17E-06	8.38E-10	9.31E-07	1.01E-05	6.84E-05	1.86E-09	3.65E-07	6.87E-05	68
69	Nador lagoon, Morocco	10.20	-1.07	0.71	3.57	4.68E-04	4.27E-08	4.75E-05	5.15E-04	3.49E-03	9.49E-08	1.86E-05	3.50E-03	69
70	Changshou Lake, China.	21.20	-0.02	1.48	7.41	9.72E-04	8.88E-08	9.87E-05	1.07E-03	7.25E-03	1.97E-07	3.86E-05	7.28E-03	70
71	Gansu section of Yellow River, China	15.50	-0.47	1.08	5.42	7.11E-04	6.49E-08	7.21E-05	7.83E-04	5.30E-03	1.44E-07	2.83E-05	5.33E-03	71
72	Yinchuan section of Yellow River, China	18.80	-0.19	1.31	6.57	8.62E-04	7.87E-08	8.75E-05	9.50E-04	6.43E-03	1.75E-07	3.43E-05	6.46E-03	72
73	Kaohsiung Harbor, Taiwan.	16.00	-0.42	1.12	5.59	7.34E-04	6.70E-08	7.45E-05	8.08E-04	5.47E-03	1.49E-07	2.92E-05	5.50E-03	73
74	Minjiang River, China	2.45	-3.13	0.17	0.86	1.12E-04	1.03E-08	1.14E-05	1.24E-04	8.37E-04	2.28E-08	4.47E-06	8.42E-04	74
75	Shima River, China.	10.80	-0.99	0.76	3.78	4.95E-04	4.52E-08	5.03E-05	5.46E-04	3.69E-03	1.00E-07	1.97E-05	3.71E-03	75
76	Coast of Ain Temouchent, Algeria	12.50	-0.78	0.87	4.37	5.73E-04	5.24E-08	5.82E-05	6.31E-04	4.27E-03	1.16E-07	2.28E-05	4.29E-03	76
77	Mangrove area of Shenzhen, China	50.00	1.22	3.50	17.48	2.29E-03	2.09E-07	2.33E-04	2.53E-03	1.71E-02	4.65E-07	9.11E-05	1.72E-02	77
78	Trabzon Harbor, Turkey	54.30	1.34	3.80	18.99	2.49E-03	2.27E-07	2.53E-04	2.74E-03	1.86E-02	5.05E-07	9.90E-05	1.87E-02	78
79	Northern South China Sea, China	7.10	-1.60	0.50	2.48	3.26E-04	2.97E-08	3.30E-05	3.59E-04	2.43E-03	6.61E-08	1.29E-05	2.44E-03	79
80	Huaihe River Basin, China	19.60	-0.13	1.37	6.85	8.99E-04	8.21E-08	9.12E-05	9.90E-04	6.70E-03	1.82E-07	3.57E-05	6.73E-03	80
81	West Guangdong coast, China	11.50	-0.90	0.80	4.02	5.27E-04	4.82E-08	5.35E-05	5.81E-04	3.93E-03	1.07E-07	2.10E-05	3.95E-03	81
82	Southern coast of Sfax, Tunisia	8.23	-1.38	0.58	2.88	3.77E-04	3.45E-08	3.83E-05	4.16E-04	2.81E-03	7.66E-08	1.50E-05	2.83E-03	82
83	Haihe River Basin, China	6.47	-1.73	0.45	2.26	2.97E-04	2.71E-08	3.01E-05	3.27E-04	2.21E-03	6.02E-08	1.18E-05	2.22E-03	83
84	Brisbane River, Australia	20.00	-0.10	1.40	6.99	9.17E-04	8.38E-08	9.31E-05	1.01E-03	6.84E-03	1.86E-07	3.65E-05	6.87E-03	84
85	Chabahar Bay, Oman	5.00	-2.10	0.35	1.75	2.29E-04	2.09E-08	2.33E-05	2.53E-04	1.71E-03	4.65E-08	9.11E-06	1.72E-03	85

86	Gabes Gulf, Tunisia	0.59	-5.18	0.04	0.21	2.71E-05	2.47E-09	2.75E-06	2.98E-05	2.02E-04	5.49E-09	1.08E-06	2.03E-04	86
87	Chenab River, Pakistan	6.00	-1.84	0.42	2.10	2.75E-04	2.51E-08	2.79E-05	3.03E-04	2.05E-03	5.58E-08	1.09E-05	2.06E-03	87
88	Zhangjiangkou Mangrove National Nature Reserve, China	10.80	-0.99	0.76	3.78	4.95E-04	4.52E-08	5.03E-05	5.46E-04	3.69E-03	1.00E-07	1.97E-05	3.71E-03	88
89	Three Gorges Reservoir area, China	46.50	1.12	3.25	16.26	2.13E-03	1.95E-07	2.16E-04	2.35E-03	1.59E-02	4.33E-07	8.48E-05	1.60E-02	89
90	Gorgan Bay, Iran	8.10	-1.40	0.57	2.83	3.71E-04	3.39E-08	3.77E-05	4.09E-04	2.77E-03	7.54E-08	1.48E-05	2.78E-03	90
91	Tongi Canal, Bangladesh	18.30	-0.23	1.28	6.40	8.39E-04	7.66E-08	8.52E-05	9.24E-04	6.25E-03	1.70E-07	3.34E-05	6.29E-03	91
92	Liaohe Estuary, China	1.70	-3.66	0.12	0.59	7.80E-05	7.12E-09	7.91E-06	8.59E-05	5.81E-04	1.58E-08	3.10E-06	5.84E-04	92
93	Xiangjiang River, China	9.56	-1.17	0.67	3.34	4.38E-04	4.00E-08	4.45E-05	4.83E-04	3.27E-03	8.89E-08	1.74E-05	3.28E-03	93
94	Jiaozhou Bay, China	4.50	-2.25	0.31	1.57	2.06E-04	1.88E-08	2.09E-05	2.27E-04	1.54E-03	4.19E-08	8.20E-06	1.55E-03	94
95	Rivers near Kinshasa, DR Congo	18.20	-0.24	1.27	6.36	8.35E-04	7.62E-08	8.47E-05	9.19E-04	6.22E-03	1.69E-07	3.32E-05	6.25E-03	95
96	Bayan Lepas, Malaysia	1.92	-3.48	0.13	0.67	8.80E-05	8.04E-09	8.94E-06	9.70E-05	6.56E-04	1.79E-08	3.50E-06	6.60E-04	96
97	Dakar coast and Saint Louis Estuary, Senegal	12.90	-0.73	0.90	4.51	5.92E-04	5.40E-08	6.00E-05	6.52E-04	4.41E-03	1.20E-07	2.35E-05	4.43E-03	97
98	Ennore to Poomphar, India	1.35	-3.99	0.09	0.47	6.19E-05	5.65E-09	6.28E-06	6.82E-05	4.61E-04	1.26E-08	2.46E-06	4.64E-04	98
99	Mand River Delta, Iran	25.00	0.22	1.75	8.74	1.15E-03	1.05E-07	1.16E-04	1.26E-03	8.54E-03	2.33E-07	4.56E-05	8.59E-03	99
100	Pengerang, Malaysia	1.90	-3.50	0.13	0.66	8.71E-05	7.96E-09	8.84E-06	9.60E-05	6.49E-04	1.77E-08	3.46E-06	6.53E-04	100
101	Gorgan Bay, Iran	8.00	-1.42	0.56	2.80	3.67E-04	3.35E-08	3.72E-05	4.04E-04	2.73E-03	7.44E-08	1.46E-05	2.75E-03	101
102	Hongfeng Lake, China	23.20	0.11	1.62	8.11	1.06E-03	9.72E-08	1.08E-04	1.17E-03	7.93E-03	2.16E-07	4.23E-05	7.97E-03	102
103	Korotoa River, Bangladesh	0.43	-5.64	0.03	0.15	1.97E-05	1.80E-09	2.00E-06	2.17E-05	1.47E-04	4.00E-09	7.84E-07	1.48E-04	103
104	Benin River, Nigeria	6.88	-1.64	0.48	2.41	3.15E-04	2.88E-08	3.20E-05	3.48E-04	2.35E-03	6.40E-08	1.25E-05	2.36E-03	104
105	Namal Lake, Pakistan	18.50	-0.21	1.29	6.47	8.48E-04	7.75E-08	8.61E-05	9.34E-04	6.32E-03	1.72E-07	3.37E-05	6.36E-03	105
106	Rupsa River, Bangladesh	18.66	-0.20	1.30	6.52	8.56E-04	7.82E-08	8.68E-05	9.43E-04	6.38E-03	1.74E-07	3.40E-05	6.41E-03	106
107	Louhajang River, Bangladesh	9.85	-1.12	0.69	3.44	4.52E-04	4.13E-08	4.58E-05	4.98E-04	3.37E-03	9.17E-08	1.80E-05	3.38E-03	107
108	Korbevačka River, Serbia	48.90	1.19	3.42	17.10	2.24E-03	2.05E-07	2.28E-04	2.47E-03	1.67E-02	4.55E-07	8.91E-05	1.68E-02	108
109	Ganga River, India	2.10	-3.35	0.15	0.73	9.63E-05	8.80E-09	9.77E-06	1.06E-04	7.18E-04	1.95E-08	3.83E-06	7.22E-04	109
110	Poyang Lake, China	28.10	0.39	1.97	9.83	1.29E-03	1.18E-07	1.31E-04	1.42E-03	9.60E-03	2.61E-07	5.12E-05	9.65E-03	110
111	Lake Qaroun, Egypt	1.47	-3.87	0.10	0.51	6.74E-05	6.16E-09	6.84E-06	7.43E-05	5.02E-04	1.37E-08	2.68E-06	5.05E-04	111

112	Huixian Karst wetland, China	19.50	-0.14	1.36	6.82	8.94E-04	8.17E-08	9.08E-05	9.85E-04	6.66E-03	1.81E-07	3.55E-05	6.70E-03	112
113	River Atuwara, Nigeria	34.16	0.67	2.39	11.94	1.57E-03	1.43E-07	1.59E-04	1.73E-03	1.17E-02	3.18E-07	6.23E-05	1.17E-02	113
114	Baiyangdian Lake, North China	20.16	-0.09	1.41	7.05	9.24E-04	8.44E-08	9.38E-05	1.02E-03	6.89E-03	1.88E-07	3.67E-05	6.93E-03	114
115	Lake Bafa, Turkey	9.40	-1.19	0.66	3.29	4.31E-04	3.94E-08	4.37E-05	4.75E-04	3.21E-03	8.75E-08	1.71E-05	3.23E-03	115
116	Varthur Lake, India	86.50	2.01	6.05	30.24	3.97E-03	3.62E-07	4.03E-04	4.37E-03	2.96E-02	8.05E-07	1.58E-04	2.97E-02	116
117	Weihe River, China	18.23	-0.23	1.27	6.37	8.36E-04	7.64E-08	8.48E-05	9.21E-04	6.23E-03	1.70E-07	3.32E-05	6.26E-03	117
118	Çömlekci stream, Turkey	2.94	-2.87	0.21	1.03	1.35E-04	1.23E-08	1.37E-05	1.49E-04	1.00E-03	2.74E-08	5.36E-06	1.01E-03	118
119	Oman Sea	1.44	-3.90	0.10	0.50	6.60E-05	6.03E-09	6.70E-06	7.27E-05	4.92E-04	1.34E-08	2.62E-06	4.95E-04	119
120	Nile River, Egypt	18.90	-0.18	1.32	6.61	8.67E-04	7.92E-08	8.80E-05	9.55E-04	6.46E-03	1.76E-07	3.44E-05	6.49E-03	120
121	Setiu wetland, Malaysia	0.77	-4.80	0.05	0.27	3.53E-05	3.22E-09	3.58E-06	3.89E-05	2.63E-04	7.16E-09	1.40E-06	2.65E-04	121
122	Chishui River Basin, China	5.12	-2.07	0.36	1.79	2.35E-04	2.14E-08	2.38E-05	2.59E-04	1.75E-03	4.76E-08	9.33E-06	1.76E-03	122
123	Olt River, Romania	0.12	-7.48	0.01	0.04	5.50E-06	5.03E-10	5.58E-07	6.06E-06	4.10E-05	1.12E-09	2.19E-07	4.12E-05	123
124	River Surma, Bangladesh	1.59	-3.75	0.11	0.56	7.29E-05	6.66E-09	7.40E-06	8.03E-05	5.43E-04	1.48E-08	2.90E-06	5.46E-04	124
125	lake Erhai, China	45.10	1.07	3.15	15.77	2.07E-03	1.89E-07	2.10E-04	2.28E-03	1.54E-02	4.20E-07	8.22E-05	1.55E-02	125

Table S2. The maximum range of Cu concentrations (mg/kg dry weight) in the sediments cited from 125 papers the literature published between 1980 and 2022, and their calculated values of geoaccumulation index (Igeo), contamination factor (CF), ecological risk (ER), hazard quotient ingestion (HQ_{ing}), hazard quotient inhalation (HQ_{inh}), hazard quotient derma contact (HQ_{der}), hazard index (HI) for adults and children based on the cited Cu data.

						Adults	Adults	Adults	Adults	Children	Children	Children	Children	
		Cu	Igeo	CF	ER	HQ_{ing}	HQ_{inh}	HQ_{der}	HI	HQ_{ing}	HQ_{inh}	HQ_{der}	HI	Reference
1	Tolo Harbour, Hong Kong	231	3.43	16.15	80.77	1.06E-02	9.67E-07	1.08E-03	1.17E-02	7.89E-02	2.15E-06	4.21E-04	7.94E-02	1
2	Belfast Lough, Ireland	420	4.29	29.37	146.85	1.93E-02	1.76E-06	1.95E-03	2.12E-02	1.44E-01	3.91E-06	7.66E-04	1.44E-01	2
3	Chao Phraya Estuary, Thailand	37.5	0.81	2.62	13.11	1.72E-03	1.57E-07	1.75E-04	1.89E-03	1.28E-02	3.49E-07	6.84E-05	1.29E-02	3
4	Ganges Estuary, India	53	1.31	3.71	18.53	2.43E-03	2.22E-07	2.47E-04	2.68E-03	1.81E-02	4.93E-07	9.66E-05	1.82E-02	4
5	Java Sea, Indonesia	54	1.33	3.78	18.88	2.48E-03	2.26E-07	2.51E-04	2.73E-03	1.85E-02	5.02E-07	9.84E-05	1.86E-02	5

6	Fly River Delta, Papua New Guinea	71	1.73	4.97	24.83	3.26E-03	2.97E-07	3.30E-04	3.59E-03	2.43E-02	6.61E-07	1.29E-04	2.44E-02	6
7	Singapore River	80	1.90	5.59	27.97	3.67E-03	3.35E-07	3.72E-04	4.04E-03	2.73E-02	7.44E-07	1.46E-04	2.75E-02	7
8	Tokyo Bay, Japan	79.8	1.90	5.58	27.90	3.66E-03	3.34E-07	3.71E-04	4.03E-03	2.73E-02	7.42E-07	1.45E-04	2.74E-02	8
9	Bintulu coastal waters, Malaysia	13	-0.72	0.91	4.55	5.96E-04	5.44E-08	6.05E-05	6.57E-04	4.44E-03	1.21E-07	2.37E-05	4.47E-03	9
10	Juru River, Malaysia	72	1.75	5.03	25.17	3.30E-03	3.02E-07	3.35E-04	3.64E-03	2.46E-02	6.70E-07	1.31E-04	2.47E-02	10
11	Victoria Harbour, Hong Kong	3790	7.47	265.03	1325.17	1.74E-01	1.59E-05	1.76E-02	1.91E-01	1.30E+00	3.53E-05	6.91E-03	1.30E+00	11
12	Scheldt Estuarine, Netherlands	2600	6.92	181.82	909.09	1.19E-01	1.09E-05	1.21E-02	1.31E-01	8.89E-01	2.42E-05	4.74E-03	8.93E-01	12
13	Johore Straits, Malaysia	92.9	2.11	6.50	32.48	4.26E-03	3.89E-07	4.32E-04	4.69E-03	3.17E-02	8.64E-07	1.69E-04	3.19E-02	13
14	Osaka Bay, Japan	35	0.71	2.45	12.24	1.60E-03	1.47E-07	1.63E-04	1.77E-03	1.20E-02	3.26E-07	6.38E-05	1.20E-02	14
15	Izmir Bay, Turkey	79	1.88	5.52	27.62	3.62E-03	3.31E-07	3.68E-04	3.99E-03	2.70E-02	7.35E-07	1.44E-04	2.71E-02	15
16	Offshore and intertidal west coast of Peninsular Malaysia	315	3.88	22.03	110.14	1.44E-02	1.32E-06	1.47E-03	1.59E-02	1.08E-01	2.93E-06	5.74E-04	1.08E-01	16
17	Pearl River Delta, China	140	2.71	9.79	48.95	6.42E-03	5.86E-07	6.52E-04	7.07E-03	4.78E-02	1.30E-06	2.55E-04	4.81E-02	17
18	Coastal Alang-Sosiya, India	313	3.87	21.89	109.44	1.44E-02	1.31E-06	1.46E-03	1.58E-02	1.07E-01	2.91E-06	5.71E-04	1.08E-01	18
19	Semarang, Indonesia	72	1.75	5.03	25.17	3.30E-03	3.02E-07	3.35E-04	3.64E-03	2.46E-02	6.70E-07	1.31E-04	2.47E-02	19
20	Kelana Jaya Lakes, Malaysia	73.6	1.78	5.15	25.73	3.37E-03	3.08E-07	3.43E-04	3.72E-03	2.52E-02	6.85E-07	1.34E-04	2.53E-02	20
21	South west coast, Spain	336	3.97	23.50	117.48	1.54E-02	1.41E-06	1.56E-03	1.70E-02	1.15E-01	3.13E-06	6.12E-04	1.15E-01	21
22	Mangrove area, Singapore	32	0.58	2.24	11.19	1.47E-03	1.34E-07	1.49E-04	1.62E-03	1.09E-02	2.98E-07	5.83E-05	1.10E-02	22
23	Ebrie Lagoon, Ivory Coast	86	2.00	6.01	30.07	3.94E-03	3.60E-07	4.00E-04	4.34E-03	2.94E-02	8.00E-07	1.57E-04	2.95E-02	23
24	Western Moreton Bay, Australia	31	0.53	2.17	10.84	1.42E-03	1.30E-07	1.44E-04	1.57E-03	1.06E-02	2.88E-07	5.65E-05	1.07E-02	24
25	Balaton Lake, Hungary	36	0.75	2.52	12.59	1.65E-03	1.51E-07	1.68E-04	1.82E-03	1.23E-02	3.35E-07	6.56E-05	1.24E-02	25
26	Mandovy Estuary, India	77.5	1.85	5.42	27.10	3.55E-03	3.25E-07	3.61E-04	3.91E-03	2.65E-02	7.21E-07	1.41E-04	2.66E-02	26
27	Kranji and Tekong Island, Singapore	17.9	-0.26	1.25	6.26	8.21E-04	7.50E-08	8.33E-05	9.04E-04	6.12E-03	1.67E-07	3.26E-05	6.15E-03	27
28	Izmit Bay, Turkey	139	2.70	9.72	48.60	6.37E-03	5.82E-07	6.47E-04	7.02E-03	4.75E-02	1.29E-06	2.53E-04	4.78E-02	28

29	Agbabu Bitumen Deposit Area, Nigeria	23.3	0.12	1.63	8.15	1.07E-03	9.76E-08	1.08E-04	1.18E-03	7.96E-03	2.17E-07	4.25E-05	8.01E-03	29
30	Tg. Piai, Peninsular Malaysia	3.81	-2.49	0.27	1.33	1.75E-04	1.60E-08	1.77E-05	1.92E-04	1.30E-03	3.54E-08	6.94E-06	1.31E-03	30
31	Mvudi River, South Africa	1027	5.58	71.82	359.09	4.71E-02	4.30E-06	4.78E-03	5.19E-02	3.51E-01	9.56E-06	1.87E-03	3.53E-01	31
32	Lakes of southwest Japan	44	1.04	3.08	15.38	2.02E-03	1.84E-07	2.05E-04	2.22E-03	1.50E-02	4.09E-07	8.02E-05	1.51E-02	32
33	Kaoshiung Harbor, Taiwan	946	5.46	66.15	330.77	4.34E-02	3.96E-06	4.40E-03	4.78E-02	3.23E-01	8.80E-06	1.72E-03	3.25E-01	33
34	Pearl River Estuary, China	351	4.03	24.55	122.73	1.61E-02	1.47E-06	1.63E-03	1.77E-02	1.20E-01	3.27E-06	6.40E-04	1.21E-01	34
35	Western Xiamen Bay, China	97	2.18	6.78	33.92	4.45E-03	4.06E-07	4.51E-04	4.90E-03	3.32E-02	9.02E-07	1.77E-04	3.33E-02	35
36	Sepang River, Malaysia	161	2.91	11.26	56.29	7.38E-03	6.74E-07	7.49E-04	8.13E-03	5.50E-02	1.50E-06	2.93E-04	5.53E-02	36
37	Polluted drainage sediments from Peninsular Malaysia	1019	5.57	71.26	356.29	4.67E-02	4.27E-06	4.74E-03	5.15E-02	3.48E-01	9.48E-06	1.86E-03	3.50E-01	37
38	Victoria Harbour, Hong Kong	280	3.71	19.58	97.90	1.28E-02	1.17E-06	1.30E-03	1.41E-02	9.57E-02	2.61E-06	5.10E-04	9.62E-02	38
39	Manchar Lake, Pakistan	29.7	0.47	2.08	10.38	1.36E-03	1.24E-07	1.38E-04	1.50E-03	1.02E-02	2.76E-07	5.41E-05	1.02E-02	39
40	East, South and West coasts of Peninsular Malaysia	38.8	0.86	2.71	13.57	1.78E-03	1.63E-07	1.81E-04	1.96E-03	1.33E-02	3.61E-07	7.07E-05	1.33E-02	40
41	Old Nakagawa River, Japan	1565	6.19	109.44	547.20	7.18E-02	6.55E-06	7.28E-03	7.91E-02	5.35E-01	1.46E-05	2.85E-03	5.38E-01	41
42	Southern part of Peninsular Malaysia	116	2.44	8.11	40.56	5.32E-03	4.86E-07	5.40E-04	5.86E-03	3.96E-02	1.08E-06	2.11E-04	3.99E-02	42
43	Six intertidal area and four urban drainage sites, Selangor, Malaysia	123	2.52	8.60	43.01	5.64E-03	5.15E-07	5.72E-04	6.21E-03	4.20E-02	1.14E-06	2.24E-04	4.23E-02	43
44	Yangtze River Estuary, China	46.6	1.12	3.26	16.29	2.14E-03	1.95E-07	2.17E-04	2.35E-03	1.59E-02	4.34E-07	8.49E-05	1.60E-02	44
45	Yangtze River, China	49.7	1.21	3.48	17.38	2.28E-03	2.08E-07	2.31E-04	2.51E-03	1.70E-02	4.62E-07	9.06E-05	1.71E-02	45
46	Dumai coast, Indonesia	13.8	-0.64	0.97	4.83	6.33E-04	5.78E-08	6.42E-05	6.97E-04	4.72E-03	1.28E-07	2.52E-05	4.74E-03	46
47	Sri Serdang Industrial Area, Malaysia	348	4.02	24.34	121.68	1.60E-02	1.46E-06	1.62E-03	1.76E-02	1.19E-01	3.24E-06	6.34E-04	1.20E-01	47
48	Laguna Lake, Philippines	18.7	-0.20	1.31	6.54	8.57E-04	7.83E-08	8.70E-05	9.45E-04	6.39E-03	1.74E-07	3.41E-05	6.43E-03	48

49	Northwestern part of Peninsular Malaysia	119	2.47	8.32	41.61	5.46E-03	4.98E-07	5.54E-04	6.01E-03	4.07E-02	1.11E-06	2.17E-04	4.09E-02	49
50	Urban river Suzhou City, China	173	3.01	12.10	60.49	7.93E-03	7.25E-07	8.05E-04	8.74E-03	5.91E-02	1.61E-06	3.15E-04	5.94E-02	50
51	Kebir Rhumel Basin, Algeria	446	4.38	31.19	155.94	2.05E-02	1.87E-06	2.08E-03	2.25E-02	1.52E-01	4.15E-06	8.13E-04	1.53E-01	51
52	Beysehir Lake, Turkey	90.3	2.07	6.31	31.57	4.14E-03	3.78E-07	4.20E-04	4.56E-03	3.09E-02	8.40E-07	1.65E-04	3.10E-02	52
53	West Port, Malaysia	27.6	0.36	1.93	9.65	1.27E-03	1.16E-07	1.28E-04	1.39E-03	9.43E-03	2.57E-07	5.03E-05	9.48E-03	53
54	Perlis River, Malaysia	35.9	0.74	2.51	12.55	1.65E-03	1.50E-07	1.67E-04	1.81E-03	1.23E-02	3.34E-07	6.54E-05	1.23E-02	54
55	West coast of Peninsular Malaysia	28.7	0.42	2.01	10.03	1.32E-03	1.20E-07	1.34E-04	1.45E-03	9.81E-03	2.67E-07	5.23E-05	9.86E-03	55
56	Hugli River Estuary and Sundarban Mangrove Wetland, India	102	2.25	7.13	35.66	4.68E-03	4.27E-07	4.75E-04	5.15E-03	3.49E-02	9.49E-07	1.86E-04	3.50E-02	56
57	Lake Pamvotis, Greece	24985	10.19	1747.20	8736.01	1.15E+00	1.05E-04	1.16E-01	1.26E+00	8.54E+00	2.32E-04	4.55E-02	8.58E+00	57
58	Sundarban, India and Bangladesh	82	1.93	5.73	28.67	3.76E-03	3.43E-07	3.82E-04	4.14E-03	2.80E-02	7.63E-07	1.49E-04	2.82E-02	58
59	Shuangtaizi Estuary, China	17.7	-0.28	1.24	6.19	8.12E-04	7.41E-08	8.24E-05	8.94E-04	6.05E-03	1.65E-07	3.23E-05	6.08E-03	59
60	Old Yellow River Estuary, China	38.5	0.84	2.69	13.46	1.77E-03	1.61E-07	1.79E-04	1.94E-03	1.32E-02	3.58E-07	7.02E-05	1.32E-02	60
61	Libyan Mediterranean coast	22.7	0.08	1.59	7.94	1.04E-03	9.51E-08	1.06E-04	1.15E-03	7.76E-03	2.11E-07	4.14E-05	7.80E-03	61
62	Qinghai section of the Yellow River, China.	57	1.41	3.99	19.93	2.61E-03	2.39E-07	2.65E-04	2.88E-03	1.95E-02	5.30E-07	1.04E-04	1.96E-02	62
63	Serbia	870	5.34	60.84	304.20	3.99E-02	3.64E-06	4.05E-03	4.39E-02	2.97E-01	8.09E-06	1.59E-03	2.99E-01	63
64	Laizhou Bay, China	21.3	-0.01	1.49	7.45	9.77E-04	8.92E-08	9.91E-05	1.08E-03	7.28E-03	1.98E-07	3.88E-05	7.32E-03	64
65	Xiangjiang River and Dongting Lake, China	217	3.34	15.17	75.87	9.95E-03	9.09E-07	1.01E-03	1.10E-02	7.42E-02	2.02E-06	3.96E-04	7.46E-02	65
66	Gulf of Thailand	36	0.75	2.52	12.59	1.65E-03	1.51E-07	1.68E-04	1.82E-03	1.23E-02	3.35E-07	6.56E-05	1.24E-02	66
67	Leizhou Peninsula, China	33.4	0.64	2.34	11.68	1.53E-03	1.40E-07	1.55E-04	1.69E-03	1.14E-02	3.11E-07	6.09E-05	1.15E-02	67
68	Gulf of Guinea	29.3	0.45	2.05	10.24	1.34E-03	1.23E-07	1.36E-04	1.48E-03	1.00E-02	2.73E-07	5.34E-05	1.01E-02	68
69	Nador lagoon, Morocco	398	4.21	27.83	139.16	1.82E-02	1.67E-06	1.85E-03	2.01E-02	1.36E-01	3.70E-06	7.25E-04	1.37E-01	69
70	Changshou Lake, China.	74.9	1.80	5.24	26.19	3.43E-03	3.14E-07	3.49E-04	3.78E-03	2.56E-02	6.97E-07	1.37E-04	2.57E-02	70
71	Gansu section of Yellow River, China	57.5	1.42	4.02	20.10	2.64E-03	2.41E-07	2.68E-04	2.90E-03	1.97E-02	5.35E-07	1.05E-04	1.98E-02	71

72	Yinchuan section of Yellow River, China	28.9	0.43	2.02	10.10	1.33E-03	1.21E-07	1.35E-04	1.46E-03	9.88E-03	2.69E-07	5.27E-05	9.93E-03	72
73	Kaohsiung Harbor, Taiwan.	760	5.15	53.15	265.73	3.48E-02	3.18E-06	3.54E-03	3.84E-02	2.60E-01	7.07E-06	1.39E-03	2.61E-01	73
74	Minjiang River, China	95.8	2.16	6.70	33.50	4.39E-03	4.01E-07	4.46E-04	4.84E-03	3.27E-02	8.91E-07	1.75E-04	3.29E-02	74
75	Shima River, China.	630	4.88	44.06	220.28	2.89E-02	2.64E-06	2.93E-03	3.18E-02	2.15E-01	5.86E-06	1.15E-03	2.16E-01	75
76	Coast of Ain Temouchent, Algeria	31.2	0.54	2.18	10.91	1.43E-03	1.31E-07	1.45E-04	1.58E-03	1.07E-02	2.90E-07	5.69E-05	1.07E-02	76
77	Mangrove area of Shenzhen, China	75	1.81	5.24	26.22	3.44E-03	3.14E-07	3.49E-04	3.79E-03	2.56E-02	6.98E-07	1.37E-04	2.58E-02	77
78	Trabzon Harbor, Turkey	247	3.53	17.27	86.36	1.13E-02	1.03E-06	1.15E-03	1.25E-02	8.44E-02	2.30E-06	4.50E-04	8.49E-02	78
79	Northern South China Sea, China	38.1	0.83	2.66	13.32	1.75E-03	1.60E-07	1.77E-04	1.92E-03	1.30E-02	3.54E-07	6.94E-05	1.31E-02	79
80	Huaihe River Basin, China	35.9	0.74	2.51	12.55	1.65E-03	1.50E-07	1.67E-04	1.81E-03	1.23E-02	3.34E-07	6.54E-05	1.23E-02	80
81	West Guangdong coast, China	78.8	1.88	5.51	27.55	3.61E-03	3.30E-07	3.67E-04	3.98E-03	2.69E-02	7.33E-07	1.44E-04	2.71E-02	81
82	Southern coast of Sfax, Tunisia	28.6	0.42	2.00	10.00	1.31E-03	1.20E-07	1.33E-04	1.44E-03	9.77E-03	2.66E-07	5.21E-05	9.83E-03	82
83	Haihe River Basin, China	179	3.06	12.52	62.59	8.21E-03	7.50E-07	8.33E-04	9.04E-03	6.12E-02	1.67E-06	3.26E-04	6.15E-02	83
84	Brisbane River, Australia	110	2.36	7.69	38.46	5.04E-03	4.61E-07	5.12E-04	5.56E-03	3.76E-02	1.02E-06	2.00E-04	3.78E-02	84
85	Chabahar Bay, Oman	26	0.28	1.82	9.09	1.19E-03	1.09E-07	1.21E-04	1.31E-03	8.89E-03	2.42E-07	4.74E-05	8.93E-03	85
86	Gabes Gulf, Tunisia	5.8	-1.89	0.41	2.03	2.66E-04	2.43E-08	2.70E-05	2.93E-04	1.98E-03	5.40E-08	1.06E-05	1.99E-03	86
87	Chenab River, Pakistan	8.7	-1.30	0.61	3.04	3.99E-04	3.64E-08	4.05E-05	4.39E-04	2.97E-03	8.09E-08	1.59E-05	2.99E-03	87
88	Zhangjiangkou Mangrove National Nature Reserve, China	26.7	0.32	1.87	9.34	1.22E-03	1.12E-07	1.24E-04	1.35E-03	9.13E-03	2.48E-07	4.87E-05	9.17E-03	88
89	Three Gorges Reservoir area, China	85.7	2.00	5.99	29.97	3.93E-03	3.59E-07	3.99E-04	4.33E-03	2.93E-02	7.97E-07	1.56E-04	2.94E-02	89
90	Gorgan Bay, Iran	12.4	-0.79	0.87	4.34	5.69E-04	5.19E-08	5.77E-05	6.26E-04	4.24E-03	1.15E-07	2.26E-05	4.26E-03	90
91	Tongi Canal, Bangladesh	101	2.24	7.06	35.31	4.63E-03	4.23E-07	4.70E-04	5.10E-03	3.45E-02	9.40E-07	1.84E-04	3.47E-02	91
92	Liaohe Estuary, China	47.9	1.16	3.35	16.75	2.20E-03	2.01E-07	2.23E-04	2.42E-03	1.64E-02	4.46E-07	8.73E-05	1.65E-02	92
93	Xiangjiang River, China	81.8	1.93	5.72	28.60	3.75E-03	3.43E-07	3.81E-04	4.13E-03	2.80E-02	7.61E-07	1.49E-04	2.81E-02	93
94	Jiaozhou Bay, China	179	3.06	12.52	62.59	8.21E-03	7.50E-07	8.33E-04	9.04E-03	6.12E-02	1.67E-06	3.26E-04	6.15E-02	94
95	Rivers near Kinshasa, DR Congo	325	3.92	22.73	113.64	1.49E-02	1.36E-06	1.51E-03	1.64E-02	1.11E-01	3.02E-06	5.92E-04	1.12E-01	95

96	Bayan Lepas, Malaysia	387	4.17	27.06	135.31	1.77E-02	1.62E-06	1.80E-03	1.95E-02	1.32E-01	3.60E-06	7.05E-04	1.33E-01	96
97	Dakar coast and Saint Louis Estuary, Senegal	121	2.50	8.46	42.31	5.55E-03	5.07E-07	5.63E-04	6.11E-03	4.14E-02	1.13E-06	2.21E-04	4.16E-02	97
98	Ennore to Poomphar, India	15.8	-0.44	1.10	5.52	7.24E-04	6.62E-08	7.35E-05	7.98E-04	5.40E-03	1.47E-07	2.88E-05	5.43E-03	98
99	Mand River Delta, Iran	87	2.02	6.08	30.42	3.99E-03	3.64E-07	4.05E-04	4.39E-03	2.97E-02	8.09E-07	1.59E-04	2.99E-02	99
100	Pengerang, Malaysia	45.2	1.08	3.16	15.80	2.07E-03	1.89E-07	2.10E-04	2.28E-03	1.54E-02	4.21E-07	8.24E-05	1.55E-02	100
101	Gorgan Bay, Iran	22	0.04	1.54	7.69	1.01E-03	9.21E-08	1.02E-04	1.11E-03	7.52E-03	2.05E-07	4.01E-05	7.56E-03	101
102	Hongfeng Lake, China	73.8	1.78	5.16	25.80	3.38E-03	3.09E-07	3.43E-04	3.73E-03	2.52E-02	6.87E-07	1.35E-04	2.54E-02	102
103	Korotoa River, Bangladesh	4.309	-2.32	0.30	1.51	1.98E-04	1.80E-08	2.01E-05	2.18E-04	1.47E-03	4.01E-08	7.85E-06	1.48E-03	103
104	Benin River, Nigeria	20.84	-0.04	1.46	7.29	9.56E-04	8.73E-08	9.70E-05	1.05E-03	7.12E-03	1.94E-07	3.80E-05	7.16E-03	104
105	Namal Lake, Pakistan	46.7	1.12	3.27	16.33	2.14E-03	1.96E-07	2.17E-04	2.36E-03	1.60E-02	4.34E-07	8.51E-05	1.60E-02	105
106	Rupsa River, Bangladesh	82.08	1.94	5.74	28.70	3.76E-03	3.44E-07	3.82E-04	4.15E-03	2.81E-02	7.64E-07	1.50E-04	2.82E-02	106
107	Louhajang River, Bangladesh	30.27	0.50	2.12	10.58	1.39E-03	1.27E-07	1.41E-04	1.53E-03	1.03E-02	2.82E-07	5.52E-05	1.04E-02	107
108	Korbevačka River, Serbia	859.9	5.33	60.13	300.66	3.94E-02	3.60E-06	4.00E-03	4.34E-02	2.94E-01	8.00E-06	1.57E-03	2.95E-01	108
109	Ganga River, India	73.98	1.79	5.17	25.87	3.39E-03	3.10E-07	3.44E-04	3.74E-03	2.53E-02	6.88E-07	1.35E-04	2.54E-02	109
110	Poyang Lake, China	213	3.31	14.90	74.48	9.77E-03	8.92E-07	9.91E-04	1.08E-02	7.28E-02	1.98E-06	3.88E-04	7.32E-02	110
111	Lake Qaroun, Egypt	9.83	-1.13	0.69	3.44	4.51E-04	4.12E-08	4.57E-05	4.97E-04	3.36E-03	9.15E-08	1.79E-05	3.38E-03	111
112	Huixian Karst wetland, China	53.63	1.32	3.75	18.75	2.46E-03	2.25E-07	2.50E-04	2.71E-03	1.83E-02	4.99E-07	9.78E-05	1.84E-02	112
113	River Atuwara, Nigeria	151.4	2.82	10.59	52.94	6.94E-03	6.34E-07	7.05E-04	7.65E-03	5.17E-02	1.41E-06	2.76E-04	5.20E-02	113
114	Baiyangdian Lake, North China	63.35	1.56	4.43	22.15	2.90E-03	2.65E-07	2.95E-04	3.20E-03	2.17E-02	5.89E-07	1.15E-04	2.18E-02	114
115	Lake Bafa, Turkey	37	0.79	2.59	12.94	1.70E-03	1.55E-07	1.72E-04	1.87E-03	1.26E-02	3.44E-07	6.74E-05	1.27E-02	115
116	Varthur Lake, India	422	4.30	29.51	147.55	1.94E-02	1.77E-06	1.96E-03	2.13E-02	1.44E-01	3.93E-06	7.69E-04	1.45E-01	116
117	Weihe River, China	69.34	1.69	4.85	24.24	3.18E-03	2.90E-07	3.23E-04	3.50E-03	2.37E-02	6.45E-07	1.26E-04	2.38E-02	117
118	Çömlekci stream, Turkey	12.32	-0.80	0.86	4.31	5.65E-04	5.16E-08	5.73E-05	6.22E-04	4.21E-03	1.15E-07	2.25E-05	4.23E-03	118
119	Oman Sea	4.87	-2.14	0.34	1.70	2.23E-04	2.04E-08	2.27E-05	2.46E-04	1.66E-03	4.53E-08	8.88E-06	1.67E-03	119
120	Nile River, Egypt	53.6	1.32	3.75	18.74	2.46E-03	2.24E-07	2.49E-04	2.71E-03	1.83E-02	4.99E-07	9.77E-05	1.84E-02	120
121	Setiu wetland, Malaysia	11.08	-0.95	0.77	3.87	5.08E-04	4.64E-08	5.16E-05	5.60E-04	3.79E-03	1.03E-07	2.02E-05	3.81E-03	121

122	Chishui River Basin, China	120.4	2.49	8.42	42.10	5.52E-03	5.04E-07	5.60E-04	6.08E-03	4.11E-02	1.12E-06	2.19E-04	4.14E-02	122
123	Olt River, Romania	176	3.04	12.31	61.54	8.07E-03	7.37E-07	8.19E-04	8.89E-03	6.01E-02	1.64E-06	3.21E-04	6.05E-02	123
124	River Surma, Bangladesh	8.52	-1.33	0.60	2.98	3.91E-04	3.57E-08	3.97E-05	4.30E-04	2.91E-03	7.93E-08	1.55E-05	2.93E-03	124
125	lake Erhai, China	87.6	2.03	6.13	30.63	4.02E-03	3.67E-07	4.08E-04	4.42E-03	2.99E-02	8.15E-07	1.60E-04	3.01E-02	125

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