

**Table S1.** Statistics of the groundwater quality parameters for each district in Sri Lanka.

ID	District	NO <sub>3</sub> <sup>-</sup>		Hardness		Fluoride		As		Cd		Fe		Mn		Cu		Cr		Pb		Al	
		Max	Ave	Max	Ave	Max	Ave	Max	Ave	Max	Ave	Max	Ave	Max	Ave	Max	Ave	Max	Ave	Max	Ave	Max	Ave
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
SL1	Ampara	33	3	362	135	5.8	0.8	2	1	0.1	0.01	546	38	6068	192	5	1	14	1	1.2	0.1	765	48
SL2	Anuradhapura	131	6	1373	283	7	1.1	3	0	0.2	0.01	82	7	1532	37	246	3	2	0	4.6	0.1	135	5
SL3	Badulla	47	4	495	140	2.3	0.6	1	0	0.1	0.01	62	8	858	68	431	10	2	0	0.9	0.1	117	7
SL4	Batticaloa	44	8	319	163	0.7	0.2	14	3	0.2	0.01	75	11	94	8	2	1	1	0	0.1	0	252	19
SL5	Colombo	37	13	132	31	0.1	0	0	0	0	0	8	1	394	61	2	0	0	0	3.3	0.3	567	47
SL6	Galle	37	8	232	34	5.8	0.1	0	0	0.2	0.01	546	12	366	39	7	1	6	0	288	0.5	815	43
SL7	Gampaha	58	18	110	20	0.1	0	0	0	0	0.01	36	3	285	45	1	0	0	0	0.7	0.2	151	34
SL8	Hambantota	128	2	1734	293	2.3	0.6	3	1	0.1	0.01	242	10	2346	144	12	1	2	0	0.3	0	604	10
SL9	Jaffna	110	19	1080	354	1.3	0.2	6	2	0.1	0.02	51	6	216	20	11	3	2	0	0	0	10	0
SL10	Kalutara	19	7	317	38	0.7	0.1	3	0	0	0	73	4	148	31	8	1	1	0	1	0.1	434	33
SL11	Kandy	18	5	400	144	0.4	0.2	0	0	0	0	271	14	2018	170	1	0	0	0	0	0	18	3
SL12	Kegalle	35	5	166	69	0.3	0.1	0	0	0	0	85	8	349	38	1	0	3	0	0	0	84	7
SL13	Kilinochchi	55	13	615	236	1.3	0.2	2	1	0.1	0.01	351	17	489	58	2	1	2	1	0.6	0.1	966	43
SL14	Kurunegala	22	2	423	169	5	0.7	1	0	0	0	388	17	2479	219	1	0	3	0	0.1	0	559	19
SL15	Mannar	135	15	647	280	1.2	0.4	66	7	0.1	0.02	659	42	353	56	7	4	3	1	0.2	0	1364	46
SL16	Matale	53	8	494	120	2.6	0.4	2	0	0.2	0.01	119	10	1058	58	37	2	2	0	1.2	0.1	89	5
SL17	Matara	53	9	341	80	0.6	0.1	4	0	0.1	0.01	604	16	1796	80	114	2	1	0	2.2	0.1	1233	43
SL18	Moneragala	82	4	891	244	6.8	1.4	2	0	0.5	0.01	614	17	803	46	166	4	6	0	4.3	0.1	1457	25
SL19	Mullaitivu	51	12	619	172	0.4	0.1	13	3	0.3	0.02	180	27	484	69	443	21	2	1	3.9	0.3	284	39
SL20	Nuwara Eliya	10	5	149	36	0.1	0.04	0	0	0	0	828	283	601	96	3	2	0	0	3	0.5	275	58
SL21	Polonnaruwa	19	1	980	231	3.4	0.8	3	0	0	0.01	154	10	9772	440	56	2	1	0	0.1	0	57	3
SL22	Puttalam	366	42	749	329	2.2	0.3	15	4	0	0	291	51	79	19	5	2	2	1	3.6	0.3	86	11
SL23	Ratnapura	28	11	174	63	0.2	0.1	0	0	0.1	0	25	2	385	69	6	1	4	1	2.6	0.2	297	17
SL24	Trincomalee	79	7	581	254	2.4	0.8	9	1	0	0	38	4	219	15	2	1	0	0	0.1	0	25	3
SL25	Vavuniya	102	27	665	333	3.1	0.8	2	1	0.1	0.01	73	5	599	34	110	7	6	1	1.3	0.3	40	4

Note: max, maximum concentration; ave, average concentration; hardness, CaCO<sub>3</sub> concentration.

**Table S2.** Characteristics of the 25 administrative districts in Sri Lanka.

District	Area	Elevation	Cropland	Forest	Impervious surface	Metamorphic rocks	Acid plutonic rocks	Unconsolidated sediments	Carbonate sedimentary rocks	Precipitation	Air temperature
	km <sup>2</sup>	m	%	%	%	%	%	%	%	mm	°C
Ampara	6970	66	37.6	45.3	0.6	69.0	28.2	1.9	0.0	1738	27.4
Anuradhapura	11074	102	39.3	58.1	0.1	79.6	13.1	2.0	0.3	1402	27.3
Badulla	4308	624	11.3	74.0	0.1	92.3	1.4	0.0	2.9	1899	24.1
Batticaloa	3909	26	57.2	22.0	1.0	67.7	7.4	20.7	0.0	1703	27.9
Colombo	1058	36	35.6	43.1	12.8	95.9	0.0	0.0	0.0	3197	27.2
Galle	2534	71	16.0	78.7	0.4	91.0	0.5	5.2	2.1	3343	26.5
Gampaha	2215	35	34.4	54.1	3.9	94.1	1.1	3.7	0.3	2580	27.2
Hambantota	4023	47	40.3	48.9	0.6	78.8	13.4	6.1	1.1	1267	27.1
Jaffna	1523	6	62.9	5.1	2.9	0.0	0.0	57.7	37.1	1291	28.1
Kalutara	2595	65	17.1	77.9	0.8	91.8	0.0	3.1	0.0	3720	26.7
Kandy	2981	656	4.7	86.2	0.3	86.2	4.5	0.0	1.8	2370	23.8
Kegalle	2576	269	2.7	94.6	0.1	83.1	8.4	0.0	0.0	3415	25.8
Kilinochchi	1975	13	59.3	23.9	1.8	0.0	8.5	80.5	10.8	1300	28.0
Kurunegala	7560	100	36.4	60.9	0.2	73.6	21.1	2.3	0.4	1704	27.2
Mannar	3062	32	35.3	56.6	1.3	4.2	14.1	81.1	0.6	1140	27.6
Matale	3191	343	17.0	78.3	0.1	77.6	2.5	0.0	9.1	1862	25.8
Matara	2011	153	13.1	83.0	0.4	95.7	0.0	4.2	0.0	2722	26.1
Moneragala	8662	164	20.9	71.5	0.1	75.8	21.1	0.6	0.3	1536	26.7
Mullaitivu	3868	41	31.2	63.7	0.3	5.6	49.2	45.2	0.0	1394	27.6
Nuwara Eliya	2651	1286	3.4	78.8	0.1	92.4	0.0	0.0	1.0	2476	20.0
Polonnaruwa	5212	77	43.7	51.5	0.2	73.6	9.9	4.8	5.6	1674	27.5
Puttalam	5036	31	49.7	38.4	1.4	12.0	35.2	51.3	0.5	1281	27.5
Ratnapura	5079	378	6.1	89.0	0.1	94.3	0.4	0.0	0.9	3361	25.0
Trincomalee	4105	31	46.2	44.5	0.6	70.1	10.4	12.5	0.8	1507	27.9
Vavuniya	3075	78	28.0	70.4	0.0	55.8	39.0	5.0	0.0	1398	27.4

Note: the values of elevation, precipitation, and air temperature are the average.