

Supplemental Information

Table S1. Antecedent dry days (ADD), total precipitation amount (PP), and storm duration (D) of each storm event considered in this study, with stormwater physicochemical characteristics. Letters indicate first flush (F) and peak flow (P). Colors indicate analyses below MPLs (black), above MPLs (red), and not regulated (blue) under Peruvian irrigation norm DS 004-2017-MINAM.

	Date	ADD (days)	PP (mm)	D (min.)	Flow rate (L/s)	pH	Conductivity ($\mu\text{S}/\text{cm}$)	Salinity (PSU)	Resistivity ($\Omega\cdot\text{cm}$)	Density (g/cm^3)	TDS (ppt)	Turbidity (NTU)	Temp. ($^{\circ}\text{C}$)
F	6-Jan-22	301	5.3	40	0.135	8.2	1245.8	0.6	945.7	0.999	0.81	345.9	19.9
P	6-Jan-22	301	5.3	40	0.135	8.2	1136.0	0.6	1039.3	0.999	0.74	882.0	18.8
F	12-Jan-22	5	1.9	50	0.055	8.5	1413.1	0.7	864.9	1.000	0.92	359.7	19.9
P	12-Jan-22	5	1.9	50	0.055	8.3	1290.1	0.6	931.8	0.999	0.84	1617.0	17.1
P	22-Jan-22	9	2.8	24	0.006	8.7	655.8	0.3	1646.8	0.998	0.43	828.3	22.7
F	16-Feb-22	24	4.8	167	0.384	8.1	691.0	0.3	1501.8	0.998	0.45	847.5	23.7
P	16-Feb-22	24	4.8	167	0.757	8.7	419.2	0.2	2746.1	0.999	0.27	1382.5	18.5
F	24-Feb-22	7	3.8	88	0.020	8.5	1120.8	0.6	1077.6	0.999	0.73	1544.5	18.0
P	24-Feb-22	7	3.8	88	0.047	8.4	659.6	0.3	1867.3	0.999	0.43	1684.5	15.5
F	7-Dec-22	265	1.8	69	0.015	8.2	3515.1	1.9	343.9	1.000	2.28	721.0	26.9
P	7-Dec-22	265	1.8	69	0.038	7.9	2240.5	1.2	3907.8	1.000	1.46	628.3	18.5
F	30-Dec-22	22	2.7	21	1.975	8.1	1689.0	0.9	711.6	1.000	1.10	1176.5	18.4
P	30-Dec-22	22	2.7	21	0.068	8.1	1213.2	0.6	999.0	0.999	0.79	1264.8	17.5
F	19-Jan-23	19	2.8	199	0.151	7.4	917.9	0.5	1179.5	0.998	0.60	613.9	26.3
P	19-Jan-23	19	2.8	199	0.047	7.9	943.3	0.5	1237.0	0.999	0.61	1203.1	20.3
F	25-Jan-23	5	16.9	44	3.275	8.0	263.2	0.1	4242.6	0.998	0.17	362.8	20.4
P	25-Jan-23	5	16.9	44	0.173	8.1	380.7	0.2	2951.3	0.999	0.25	890.0	19.2
F	5-Mar-23	38	4.4	31	1.803	9.3	349.8	0.2	3115.5	0.998	0.23	727.7	22.6
P	5-Mar-23	38	4.4	31	0.568	8.8	361.6	0.2	3060.7	0.998	0.24	443.3	21.8
F	10-Mar-23	4	1.7	24	0.010	8.4	440.1	0.2	2733.6	0.999	0.29	1238.9	18.8
P	10-Mar-23	4	1.7	24	0.008	8.3	523.7	0.3	2339.7	0.999	0.34	1270.6	18.2
P	3-Apr-23	23	1.8	15	0.001	8.1	763.9	0.4	1509.9	0.999	0.50	798.9	21.1

Table S2. Results from the laboratory analyses applied to stormwater samples. Letters indicate first flush (F) and peak flow (P). Colors indicate analyses below MPLs (black), above MPLs (red), and not regulated (blue) under Peruvian irrigation norm DS 004-2017-MINAM.

	Date	Al	As	B	Ba	Ca	Cd	Co	Cu	Cr	Fe	K	Li	Mg	Mn
F	6-Jan-22	0.057	0.033	2.108	0.101	157.550	0.000	0.009	0.347	0.007	0.327	60.297	0.144	20.656	0.165
P	6-Jan-22	0.294	0.023	1.294	0.091	103.440	0.001	0.007	0.248	0.006	0.499	53.957	0.083	15.202	0.140
F	12-Jan-22	0.104	0.029	1.800	0.125	148.890	0.001	0.006	0.205	0.006	0.204	54.153	0.135	23.266	0.090
P	12-Jan-22	0.261	0.017	1.687	0.080	106.840	0.000	0.007	0.258	0.005	0.352	51.598	0.225	23.650	0.128
P	22-Jan-22	0.122	0.010	0.627	0.047	54.960	0.000	0.004	0.126	0.006	0.231	40.739	0.041	8.279	0.054
F	16-Feb-22	0.091	0.009	1.007	0.055	63.580	0.000	0.005	0.135	0.007	0.188	43.529	0.044	9.232	0.060
P	16-Feb-22	0.060	0.007	0.580	0.033	32.470	0.000	0.003	0.054	0.001	0.105	20.252	0.027	4.555	0.031
F	2-Feb-22	0.039	0.016	1.425	0.063	84.390	0.000	0.006	0.162	0.004	0.142	46.368	0.096	14.877	0.078
P	2-Feb-22	0.034	0.006	0.685	0.037	48.950	0.000	0.003	0.086	0.003	0.085	28.739	0.053	8.495	0.050
F	7-Dec-22	1.037	0.059	3.879	0.142	397.580	0.003	0.028	0.146	0.033	8.443	180.203	0.264	61.951	0.853
P	7-Dec-22	0.484	0.042	2.959	0.128	247.970	0.002	0.020	0.059	0.018	8.559	93.045	0.188	39.043	0.816
F	30-Dec-22	0.212	0.022	1.210	0.183	125.870	0.001	0.010	0.262	0.010	0.631	54.075	0.089	16.084	0.293
P	30-Dec-22	0.187	0.020	1.349	0.204	153.940	0.000	0.012	0.207	0.011	0.683	64.601	0.100	19.657	0.306
F	19-Jan-23	0.081	0.011	0.785	0.072	73.650	0.000	0.005	0.148	0.010	0.248	38.126	0.041	8.345	0.071
P	19-Jan-23	0.003	0.012	0.970	0.057	74.060	0.000	0.006	0.146	0.005	0.106	35.777	0.061	10.230	0.085
F	25-Jan-23	0.023	0.004	0.164	0.044	27.780	0.000	0.001	0.012	0.001	0.114	8.944	0.007	2.041	0.048
P	25-Jan-23	0.038	0.003	0.324	0.052	36.700	0.001	0.002	0.033	0.003	0.097	15.230	0.014	3.553	0.053
F	5-Mar-23	0.058	0.001	0.197	0.022	29.670	0.000	0.002	0.050	0.005	0.060	18.122	0.010	2.571	0.015
P	5-Mar-23	0.016	0.005	0.153	0.025	28.150	0.000	0.002	0.021	0.003	0.056	13.586	0.009	2.698	0.026
F	3-Mar-23	0.003	0.013	0.322	0.027	36.590	0.000	0.003	0.065	0.003	0.029	17.325	0.024	4.054	0.034
P	3-Mar-23	0.012	0.007	0.384	0.046	53.200	0.000	0.003	0.091	0.004	0.048	18.796	0.033	5.082	0.082
P	3-Apr-23	0.031	0.008	0.589	0.067	69.560	0.001	0.003	0.118	0.003	0.064	29.755	0.047	7.615	0.113

Table S3. Results from the laboratory analyses applied to stormwater samples. Letters indicate first flush (F) and peak flow (P). Colors indicate analyses below MPLs (black), above MPLs (red), and not regulated (blue) under Peruvian irrigation norm DS 004-2017-MINAM.

	Date	Mo	Na	Ni	P	Pb	S	Se	Si	Sr	Ti	Tl	V	Zn
F	6-Jan-22	0.030	128.507	0.021	2.223	0.002	138.929	0.017	9.572	0.494	0.009	0.013	0.027	0.307
P	6-Jan-22	0.022	99.024	0.017	2.692	0.008	75.960	0.008	8.064	0.337	0.015	0.007	0.020	0.327
F	12-Jan-22	0.028	133.390	0.017	1.364	0.005	96.451	0.010	13.931	0.520	0.004	0.004	0.012	0.237
P	12-Jan-22	0.023	112.336	0.014	1.627	0.011	74.585	0.011	7.925	0.356	0.010	0.005	0.012	0.187
P	22-Jan-22	0.010	56.625	0.011	2.604	0.005	37.792	0.011	5.796	0.174	0.007	0.003	0.014	0.202
F	16-Feb-22	0.013	76.492	0.013	2.786	0.007	46.790	0.005	5.561	0.252	0.005	0.004	0.013	0.219
P	16-Feb-22	0.008	36.299	0.006	0.986	0.011	23.359	0.002	3.296	0.109	0.003	0.003	0.007	0.065
F	2-Feb-22	0.020	109.478	0.014	1.707	0.004	73.079	0.009	7.163	0.341	0.003	0.007	0.010	0.216
P	2-Feb-22	0.011	61.907	0.008	1.195	0.005	40.660	0.001	4.813	0.246	0.002	0.007	0.006	0.114
F	7-Dec-22	0.072	471.277	0.065	5.030	0.010	327.191	0.002	22.189	1.599	0.028	0.019	0.034	3.299
P	7-Dec-22	0.039	229.344	0.036	2.331	0.000	188.769	0.008	18.651	0.828	0.016	0.006	0.020	1.934
F	30-Dec-22	0.024	125.227	0.025	2.302	0.001	98.083	0.017	10.440	0.384	0.007	0.012	0.010	0.773
P	30-Dec-22	0.027	149.511	0.024	2.766	0.001	120.788	0.017	11.439	0.472	0.007	0.007	0.011	0.799
F	19-Jan-23	0.015	82.589	0.012	2.558	0.003	56.046	0.008	6.349	0.245	0.004	0.003	0.014	0.270
P	19-Jan-23	0.018	90.949	0.012	1.284	0.000	55.499	0.010	6.414	0.251	0.001	0.007	0.007	0.174
F	25-Jan-23	0.004	15.443	0.005	0.720	0.004	17.967	0.003	1.650	0.081	0.000	0.003	0.002	0.087
P	25-Jan-23	0.009	30.980	0.007	1.003	0.003	24.503	0.001	4.113	0.113	0.001	0.000	0.005	0.111
F	5-Mar-23	0.007	27.684	0.006	0.976	0.001	21.588	0.006	3.681	0.074	0.001	0.004	0.007	0.059
P	5-Mar-23	0.004	25.255	0.004	1.448	0.002	18.331	0.005	3.345	0.078	0.000	0.000	0.002	0.038
F	3-Mar-23	0.009	39.300	0.006	1.027	0.001	26.902	0.004	3.414	0.104	0.000	0.002	0.003	0.049
P	3-Mar-23	0.011	44.220	0.006	1.069	0.001	32.266	0.011	2.722	0.141	0.000	0.004	0.004	0.227
P	3-Apr-23	0.016	64.470	0.011	0.987	0.004	45.765	0.010	8.329	0.207	0.001	0.007	0.006	0.278

Figure S1. Correlation matrix for all analytes considered in this study, including only samples collected during first flush. Color scale indicates how strong correlations are between two given variables, being this negative (red), positive (blue), and no correlation (white).

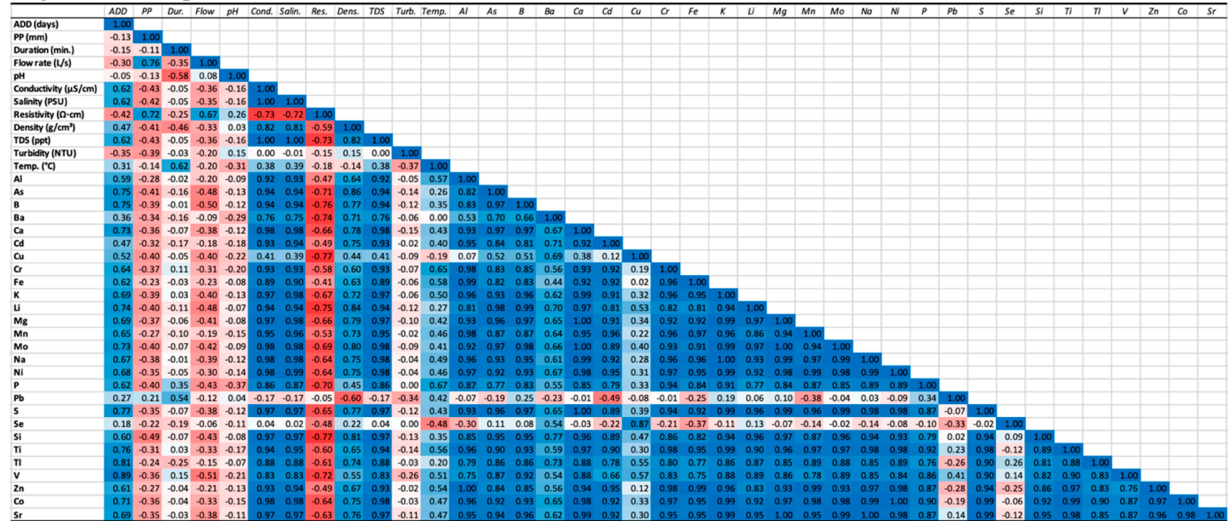


Figure S2. Correlation matrix for all analytes considered in this study, including only samples collected during peak flow. Color scale indicates how strong correlations are between two given variables, being this negative (red), positive (blue), and no correlation (white).

