



Supplement of

Geochemical characteristics of suspended particulate matter around Piscadera Bay and its influence on nearshore ecosystems, Curaçao (Caribbean Sea)

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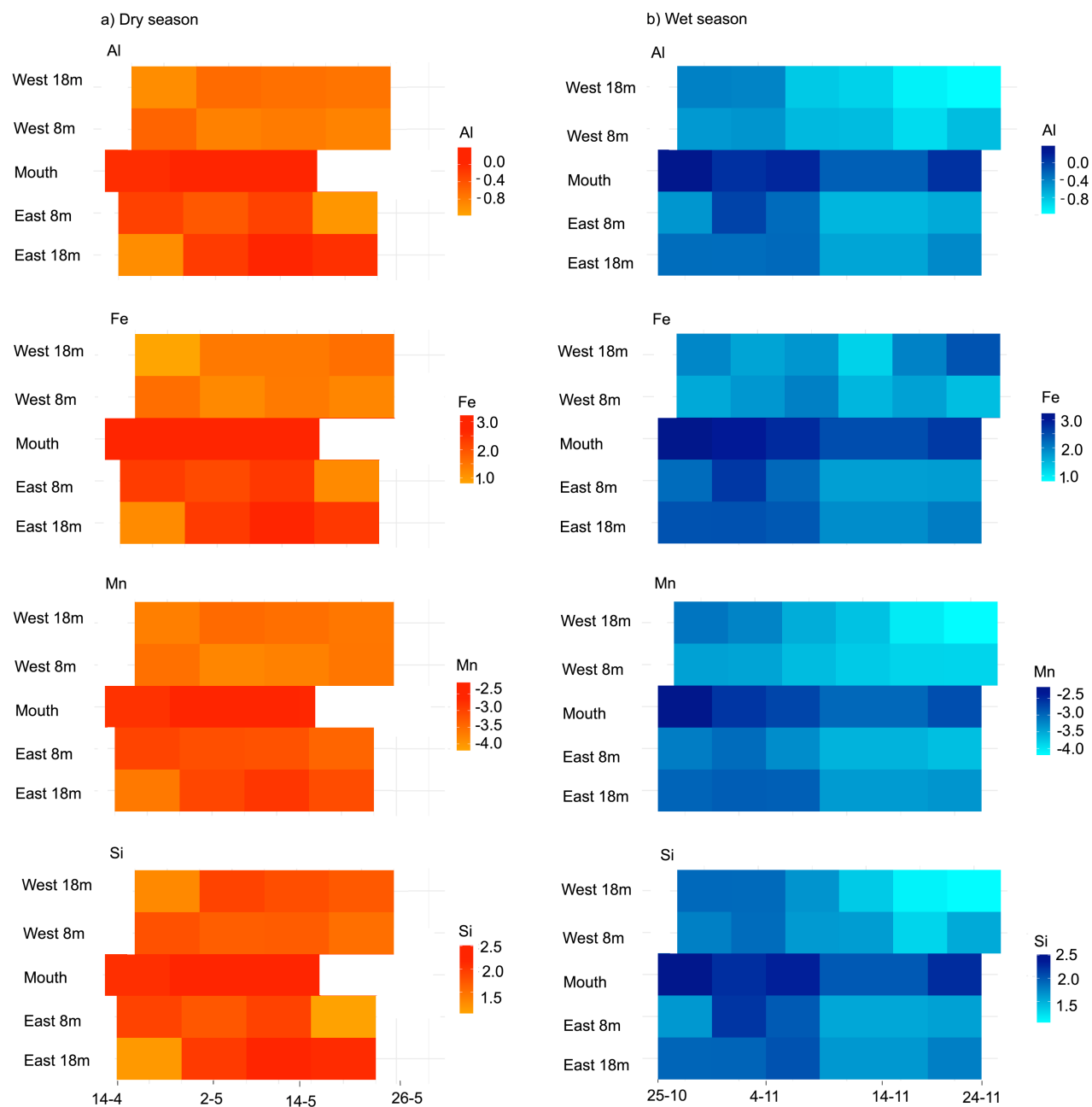
Supplementary material

Table S1. ANOVA results summary of significant differences in mass, C_{org} and total N fluxes, grain size and silt and clay % between locations in the dry and wet season.

Season	Parameter	Comparison	Higher value	p adj	diff	lwr	upr
Dry	Mass flux	Mouth-East8	Mouth	0.024	5007.87	458.26	9557.48
Dry	C _{org} flux	Mouth-East8	Mouth	2.40E-03	133.54	36.59	230.49
Dry	Total N flux	Mouth-East8	Mouth	2.80E-03	19.21	5.09	33.34
Dry	Silt/clay %	West18-East18	East18	1.80E-03	-22.07	-38.07	-6.06
Dry	Silt/clay %	West18-East8	East8	5.30E-04	-22.82	-38.01	-7.64
Dry	Silt/clay %	West18-Mouth	Mouth	1.21E-07	-32.52	-46.98	-18.07
Dry	Silt/clay %	West8-Mouth	Mouth	2.40E-04	-22.25	-36.36	-8.14
Wet	Mass flux	Mouth-East18	Mouth	2.62E-08	25717.77	15020.67	36414.88
Wet	Mass flux	Mouth-East8	Mouth	3.55E-09	27893.72	17025.44	38761.99
Wet	Mass flux	West18-Mouth	Mouth	1.00E-03	-30791.16	-41071.52	-20510.80
Wet	Mass flux	West8-Mouth	Mouth	1.30E-08	-25304.65	-35585.01	-15024.29
Wet	C _{org} flux	Mouth-East18	Mouth	2.23E-06	457.73	232.68	682.78
Wet	C _{org} flux	Mouth-East8	Mouth	2.97E-06	476.65	239.37	713.94
Wet	C _{org} flux	West18-Mouth	Mouth	6.23E-10	-585.50	-801.78	-369.21
Wet	C _{org} flux	West8-Mouth	Mouth	8.16E-08	-500.93	-717.21	-284.64
Wet	Total N flux	Mouth-East18	Mouth	1.45E-05	57.03	26.45	87.60
Wet	Total N flux	Mouth-East8	Mouth	1.05E-05	58.84	27.78	89.91
Wet	Total N flux	West18-Mouth	Mouth	7.49E-09	-73.64	-103.03	-44.26
Wet	Total N flux	West8-Mouth	Mouth	3.36E-06	-58.6	-87.99	-29.22
Wet	Silt/clay %	Mouth-East18	Mouth	0.021	13.35	1.35	25.35
Wet	Silt/clay %	Mouth-East8	Mouth	1.90E-04	19.50	7.50	31.49
Wet	Silt/clay %	West18-Mouth	Mouth	3.50E-03	-15.03	-26.38	-3.69
Wet	Silt/clay %	West8-Mouth	Mouth	8.20E-03	-14.32	-25.96	-2.68

Table S2. T-test results of comparisons of mean mass, C_{org} and total N fluxes, grain size and silt and clay % values per season. Bold numbers show significant differences

Location	Variable	Wet Mean	Dry Mean	Difference	p-value
East18	Mass flux	10959.72	7026.07	3933.65	0.162
East18	Total N flux	31.595	14.227	17.368	0.077
East18	C _{org} flux	229.29	96.87	132.42	0.071
East18	Grain size	43.61	99.61	-6.00	0.351
East18	Silt/clay %	58.36	52.26	6.10	0.345
East8	Mass flux	8648.03	4352.32	4295.71	9.61E-03
East8	Total N flux	28.901	8.013	20.888	0.043
East8	C _{org} flux	175.23	50.13	125.10	0.104
East8	Grain size	49.25	62.63	13.38	0.474
East8	Silt/clay %	55.71	55.41	0.30	0.967
Mouth	Mass flux	36541.74	9202.18	27339.56	0.048
Mouth	Total N flux	87.745	27.030	60.720	0.048
Mouth	C _{org} flux	678.84	178.98	499.86	0.047
Mouth	Grain size	31.27	45.49	14.22	0.099
Mouth	Silt/clay %	75.73	64.12	11.61	0.11
West18	Mass flux	5716.72	6701.46	984.74	0.583
West18	Total N flux	14.303	19.363	5.061	0.331
West18	C _{org} flux	96.18	124.45	28.27	0.484
West18	Grain size	43.75	95.35	51.60	0.033
West18	Silt/clay %	57.01	28.65	28.36	5.00E-04
West8	Mass flux	11583.96	7301.64	4282.32	0.219
West8	Total N flux	30.454	18.971	11.483	0.139
West8	C _{org} flux	185.68	126.09	59.59	0.203
West8	Grain size	42.88	86.46	43.58	0.032
West8	Silt/clay %	62.41	38.16	24.25	4.70E-03



25 **Figure S1.** Elemental intensities of Al, Fe, Mn, and Si in sediment-trap samples during the a)

26 dry season and b) wet season. The x-axis represents sampling dates, and the y-axis displays

27 the five sampled locations (West 18, West 8, Mouth, East 8, and East 18). The color scale

28 indicates centered log-ratios (CLR) of elemental intensities

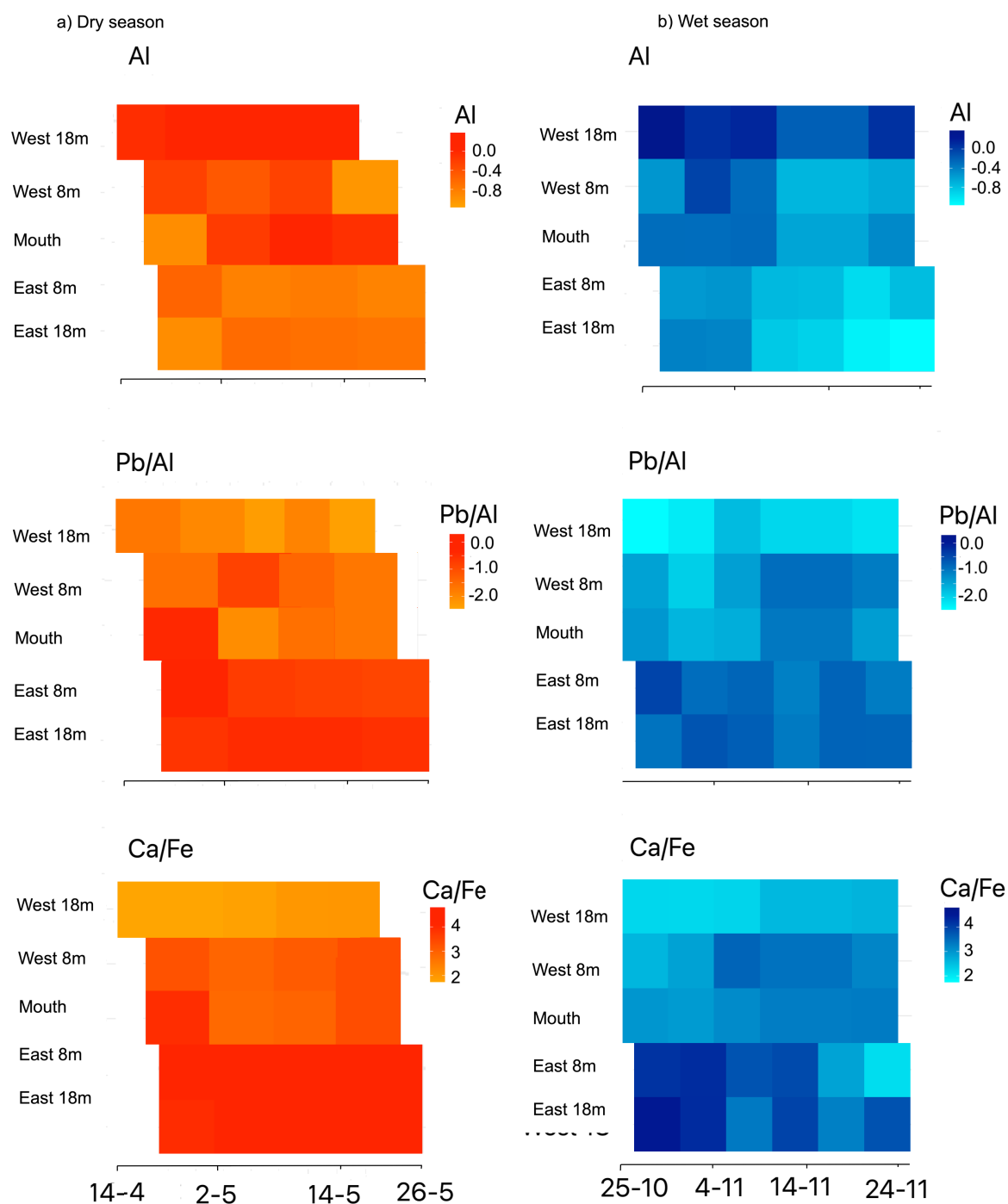


Figure S2. Elemental ratios of Pb/Al, Rb/Al, Y/Al, Cu/Al and Ni/Al in sediment-trap samples during the a) dry season and b) wet season. The x-axis represents sampling dates, and the y-axis displays the five sampled locations (West 18, West 8, Mouth, East 8, and East 18).

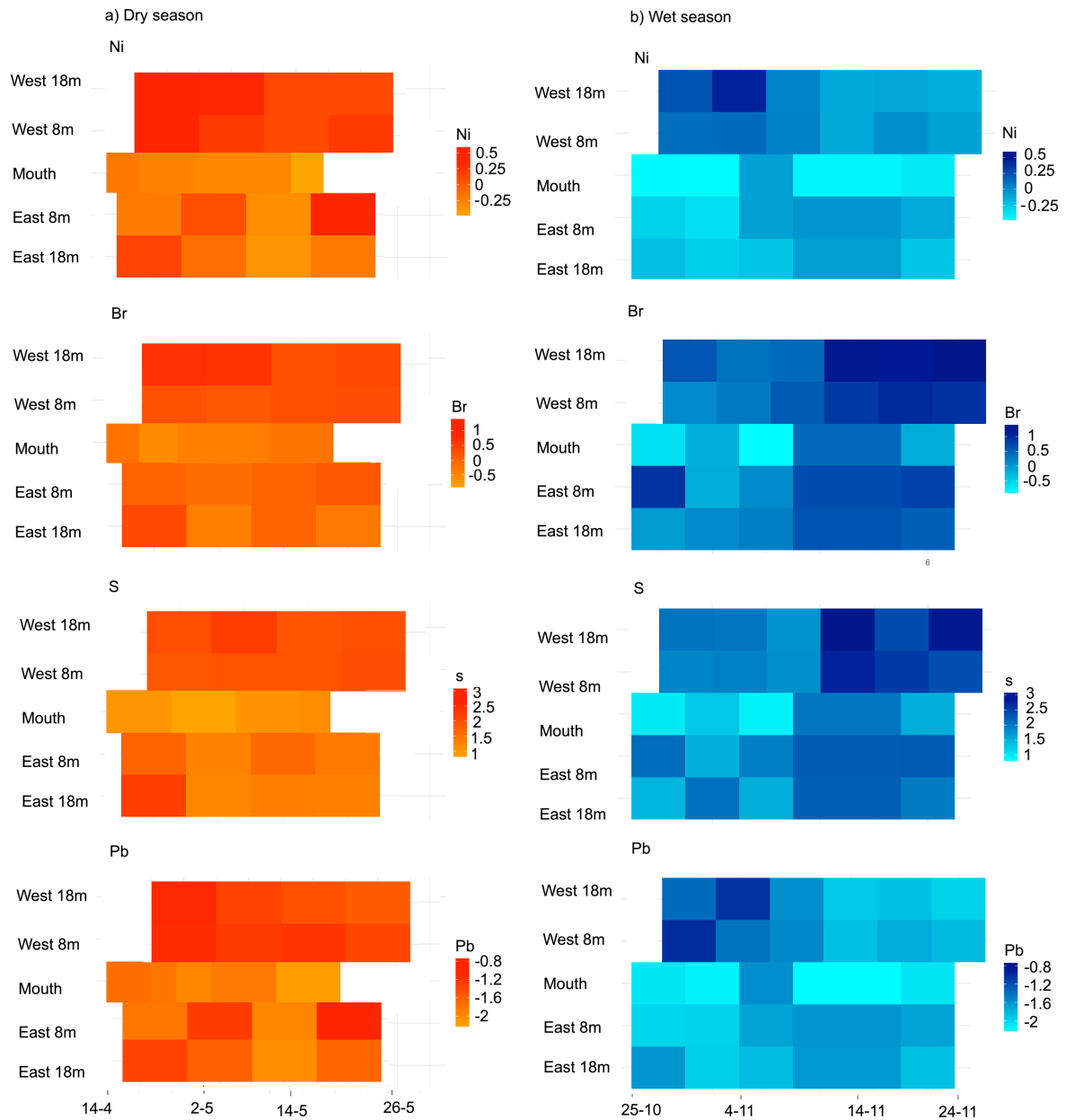


Figure S3. Elemental intensities of Ni, Br, S and Pb in sediment-trap samples during the a) dry season and b) wet season. The x-axis represents sampling dates, and the y-axis displays the five sampled locations (West 18, West 8, Mouth, East 8, and East 18). The color scale indicates centered log-ratios (CLR) of elemental intensities

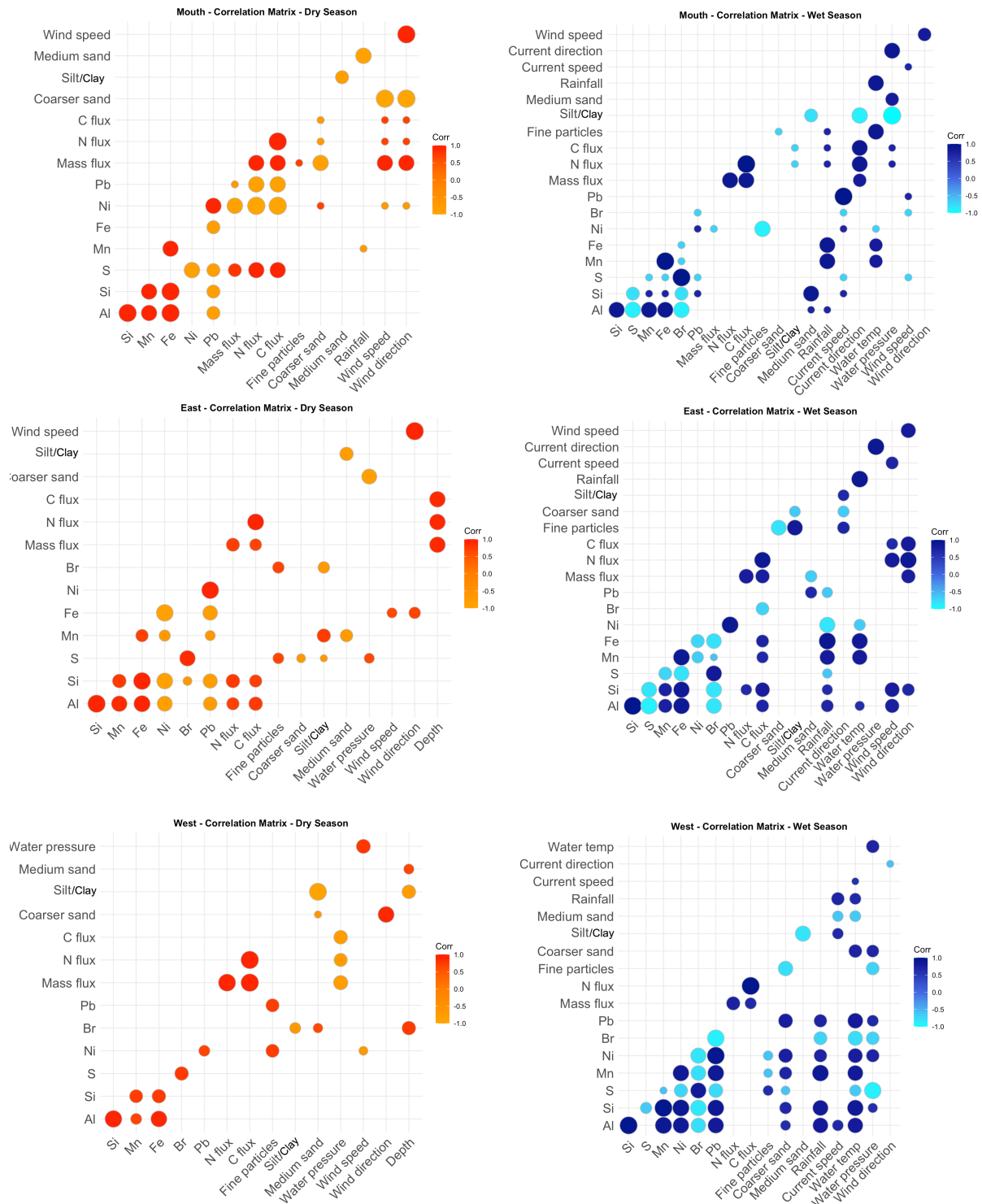


Figure S4. Correlation matrix of suspended particulate matter characteristics and environmental parameters. Only strong to very strong correlations ($r \geq 0.6$) are displayed. (a) Dry season correlations for Mouth (top), East (middle), and West (bottom) locations. (b) Wet season correlations for the same locations following the same vertical order. Data for the two depths (8 and 18 meters) for the east and western reefs were combined.