

Period	Station	Parameters	NH4	NO3	PO4	DSi	Chl-a	TOC	DO	TSS
Entire year	Upstream	R ²	0.10	0.09	0.06	0.17	0.02	0.02	0.56	0.01
		RMSE	0.16	0.33	0.08	0.45	4.54	3.22	1.75	13.98
		pbias (%)	-58	-46	287	86	>1000	-62	58	-28
	Urban	R ²	0.01	0.08	0.03	0.70	0.60	0.58	0.06	0.00
		RMSE	0.89	0.94	0.10	0.73	19.47	4.26	1.18	43.43
		pbias (%)	144	78	212	76	54	46	45	-7
	Downstream	R ²	0.03	0.08	0.16	0.00	0.26	0.06	0.01	0.01
		RMSE	0.20	0.33	0.15	0.98	2.49	1.57	0.83	32.95
		pbias (%)	235	1	391	90	309	7	-1	-28
Dry season	Upstream	R ²	0.24	0.08	0.03	0.32	0.01	0.03	0.06	0.45
		RMSE	0.17	0.30	0.09	0.44	6.38	3.74	2.40	6.77
		pbias (%)	-64	-27	295	85	3	-66	118	-12
	Urban	R ²	0.19	0.00	0.02	0.82	0.44	0.78	0.13	0.37
		RMSE	1.18	1.23	0.07	0.61	26.95	5.39	1.45	59.82
		pbias (%)	264	160	147	70	20	69	77	-41
	Downstream	R ²	0.23	0.36	0.20	0.00	0.48	0.16	0.16	0.95
		RMSE	0.15	0.33	0.18	0.57	2.58	2.03	1.10	45.04
		pbias (%)	201	19	516	29	340	-11	3	-58
Rainy season	Upstream	R ²	0.09	0.36	0.00	0.03	0.35	0.16	0.54	0.29
		RMSE	0.15	0.36	0.08	0.46	0.66	2.60	0.58	18.58
		pbias (%)	-52	-64	278	86	>1000	-57	-1	-44
	Urban	R ²	0.10	0.51	0.04	0.91	0.04	0.40	0.01	0.33
		RMSE	0.47	0.49	0.12	0.83	5.65	2.69	0.85	13.93
		pbias (%)	24	-5	276	82	88	23	13	26
	Downstream	R ²	0.06	0.07	0.10	0.26	0.03	0.24	0.42	0.34
		RMSE	0.24	0.32	0.10	1.27	2.40	0.89	0.39	11.93
		pbias (%)	270	-18	266	152	278	24	-5	1

Model performance was calculated based on a comparison of daily simulated concentrations and observed data from CARE bi-weekly monitoring at three stations km 86 (upstream), km 130 (urban) and km 156 (downstream), from January 2017 – December 2018.