|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Period** | **Station** | **Parameters** | **NH4** | **NO3** | **PO4** | **DSi** | **Chl-a** | **TOC** | **DO** | **TSS** |
| Entire year | Upstream | R2 | 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 | R2 | 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 | R2 | 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 | R2 | 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 | R2 | 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 | R2 | 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 | R2 | 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 | R2 | 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 | R2 | 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. | | | | | | | | | | | |