Table S1.

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| --- | --- | --- | --- | --- | --- |
|  | Seasons | Statistical  parameters | MLD  (m) | Nitracline top (m) | Mean [NO3-] in MLD  (mmol m-3) |
| Equatorial region | Boreal winter | Min | 20.50 | 34.14 | 2.96 |
| Max | 64.50 | 46.19 | 7.49 |
| Mean | 39.06 | 41.08 | 5.35 |
| Boreal summer | Min | 10.5 | 5.47 | 0.00 |
| Max | 35.33 | 28.83 | 2.06 |
| Mean | 25.88 | 14.68 | 1.60 |
| Subequatorial region | Boreal winter | - | - | - | - |
| Boreal summer | Min | 30.93 | 45.99 | 0.03 |
| Max | 44.13 | 79.57 | 0.66 |
| Mean | 39.72 | 60.77 | 0.25 |
| Subtropical region | Boreal winter | - | - | - | - |
| Boreal summer | Min | 10.00 | 0.00 | 0.25 |
| Max | 65.33 | 113.38 | 5.41 |
| Mean | 46.15 | 74.61 | 1.55 |