**Table S2.** Correlation matric (nonparametric Spearman’s rho, *ρ*) of particulate organic carbon (POC), particulate organic nitrogen (PON), dissolved organic carbon (DOC), dissolved organic nitrogen (DON), nitrate, nitrite and ammonium (DIN), and chlorophyll *a* (Chl *a*) concentration at all depth (0 – 1000 m) at all stations in May and August.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |
|  |  |  | **POC** | **PON** | **DOC** | **DON** |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **MAY** | **PON** | *ρ* *n* | 0.973\*\*118 |  |  |  |
|  | **DOC** | *ρ* *n* | -0.343\*\*118 | -0.295\*\*118 |  |  |
|  | **DON** | *ρ* *n* | -0.451\*\*96 | -0.418\*\*96 | -0.01396 |  |
|  | **Chl *a*** | *ρ* *n* | 0.902\*\*118 | 0.940\*\*118 | -0.222\*118 | -0.357\*\*96 |
|  | **DIN** | *ρ* *n* | -0.838\*\*116 | -0.868\*\*116 | 0.286\*\*116 | 0.286\*\*96 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **AUG.** | **PON** | *ρ* *n* | 0.984\*\*145 |  |  |  |
|  | **DOC** | *ρ* *n* | -0.278\*84 | -0.240\*84 |  |  |
|  | **DON** | *ρ* *n* | 0.13881 | 0.12281 | -0.06180 |  |
|  | **Chl *a*** | *ρ* *n* | 0.653\*\*144 | 0.686\*\*144 | -0.10183 | -0.04480 |
|  | **DIN** | *ρ* *n* | -0.839\*\*139 | -0.841\*\*139 | 0.10379 | -0.470\*\*80 |
|  |  |  |  |  |  |  |

\*\*Correlation is significant at the 0.01 level \*Correlation is significant at the 0.05 level