| Box                                      | Code | Area (Tm²) | Depth (m) | $[O_2]$ (µM)* | $[PO_4]$ (µmol kg⁻¹) | Temperature (°C) | Prim. Prod. | Corg Decay | Corg Export | Corg Burial | River. [PO₄] | Prim. Prod. | Porg Decay | Porg Export | Porg Burial | Pauth Burial | PFe Burial | O₂ Resp. |
|-----------------------------------------|------|------------|-----------|---------------|----------------------|-----------------|-------------|------------|-------------|-------------|--------------|-------------|------------|-------------|--------------|--------------|------------|----------|
| Arctic Ocean (surface)                  | S1   | 3          | 200       | 234           | 0.88                 | 17              | 0.58        | 0.48       | 0.09        | 0.009       | 0.014        | 0.45        | 0.38       | 0.07        | 0.002        | 0.004        | 0.002      | -         |
| Open ocean continental shelf            | S2   | 27         | 150       | 203.2         | 1.14                 | 25              | 5.51        | 5.27       | 0.17        | 0.08        | 0.075        | 4.33        | 4.19       | 0.13        | 0.013        | 0.026        | 0.013      | -         |
| Eurasian Epicontinental Seaway (surface)| S3   | 13.5       | 150       | 203.2         | 0.89                 | 25              | 2.19        | 2.06       | 0.09        | 0.039       | 0.048        | 1.72        | 1.64       | 0.07        | 0.008        | 0.016        | 0.008      | -         |
| Low/Mid latitudes open ocean            | S4   | 341.1      | 150       | 203.2         | 0.79                 | 25              | 37.69       | 34.68      | 3.02        | -           | -            | 29.63       | 27.26      | 2.37        | -            | -            | -          | -         |
| Southern ocean                          | S5   | 34.9       | 200       | 258.3         | 0.54                 | 12              | 1.98        | 1.78       | 0.2         | -           | -            | 1.56        | 1.4        | 0.16        | -            | -            | -          | -         |
| Thermocline                             | IM   | 341.1      | 900       | 133.4         | 1.31                 | 16              | -           | 2.48       | 0.7         | -           | -            | -           | 1.95       | 0.55        | -            | -            | -          | 269.15     |
| Arctic Ocean (deep)                     | D1   | 13.5       | 1040      | 100.7         | 1.84                 | 12              | -           | 0.09       | -           | 0.001       | -            | 0.07        | -          | 0.0003      | 0.001        | 0.0003      | 9.28        |
| Atlantic Ocean                          | D2   | 52.35      | 2940      | 203.3         | 0.92                 | 12              | -           | 0.14       | -           | 0.006       | -            | 0.12        | -          | 0.002       | 0.004        | 0.002       | 15.62       |
| Indo-Tethys Ocean                       | D3   | 80.27      | 2000      | 190.4         | 1.01                 | 12              | -           | 0.22       | -           | 0.009       | -            | 0.18        | -          | 0.003       | 0.006        | 0.003       | 23.95       |
| Pacific Ocean                           | D4   | 181.48     | 3610      | 180.4         | 1.1                  | 12              | -           | 0.5        | -           | 0.02        | -            | 0.40        | -          | 0.006       | 0.013        | 0.006       | 54.16       |
| Eurasian Epicontinental Seaway (deep)   | D5   | 3          | 750       | 80.8          | 1.74                 | 12              | -           | 0.09       | -           | 0.001       | -            | 0.07        | -          | 0.0003      | 0.0006       | 0.0003      | 9.4         |
| Total                                   |      | -          | -         | -             | -                    | -               | -           | 47.95      | 47.79       | 4.27        | 0.16         | 0.137       | 37.69      | 37.66       | 3.35         | 0.035        | 0.071      | 0.035      | 390.15 |

a: twice the modern value (Arrigo and van Dijken, 2011); b: somewhat higher than modern value (Wollast et al., 1998); c: tuned to obtain nutrient utilization efficiency <1; d: Wollast et al., 1998; e: Arrigo et al., 2008

Prim. Prod.: Primary Productivity

O₂ resp.: O₂ Respiration