Supplementary Material

# Supplementary Figures and Tables

## Supplementary Figures



**Supplementary Figure 1.** POC content at 500m, 1000 m, and 2000 m. No bar means no data.

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**Supplementary Figure 2.** Lithogenic material content at 500m, 1000 m, and 2000 m. No bar means no data.



**Supplementary Figure 3.** Biogenic opal content (upper 3 plots) and flux (lower 3 plots) at 500 m, 1000 m, and 2000 m. No bar means no data.



**Supplementary Figure 4.** Biogenic CaCO3 content (upper 3 plots) and flux (lower 3 plots) at 500 m, 1000 m, and 2000 m. No bar means no data.

## Supplementary Tables

**Supplementary Table 1.** Trap deployment periods, sampling depths, and the periods of trap malfunctioning. Dates are in dd.mm.yyyy format.

|  |  |  |
| --- | --- | --- |
| Trap deployment period | Trap depth (m) | Period of trap malfunctioning |
| 04.07.2011 ~ 28.01.2012 | 500 | 08.10.2011 ~ 28.01.2012 |
| 1000 | None |
| 2000 | None |
| 12.03.2012 ~ 01.11.2012 | 500 | 21.03.2012 ~ 01.11.2012 |
| 1000 | 10.06.2012 ~ 19.06.2012 |
| 16.07.2012 ~ 01.11.2012 |
| 2000 | 12.03.2012 ~ 01.11.2012 |
| 01.12.2012 ~ 27.06.2013 | 500 | None |
| 1000 | None |
| 2000 | None |
| 04.09.2013 ~ 31.03.2014 | 500 | 04.09.2013 ~ 31.03.2014 |
| 1000 | 04.09.2013 ~ 31.03.2014 |
| 2000 | 04.09.2013 ~ 31.03.2014 |
| 01.06.2014 ~ 30.11.2014 | 500 | 10.08.2014 ~ 23.11.2014 |
|
| 1000 | 10.08.2014 ~ 23.11.2014 |
|
| 2000 | 17.08.2014 ~ 23.11.2014 |
|
| 15.03.2015 ~ 13.09.2015 | 500 | 05.07.2015 ~ 13.09.2015 |
| 1000 | 07.07.2015 ~ 13.09.2015 |
| 2000 | 06.09.2015 ~ 13.09.2015 |
| 15.09.2015 ~ 15.03.2016 | 500 | None |
| 1000 | None |
| 2000 | 22.09.2015 ~ 15.03.2016 |
| 10.04.2016 ~ 07.09.2016 | 500 | None |
| 1000 | 10.04.2016 ~ 10.05.2016 |
| 2000 | None |
| 10.09.2016 ~ 13.02.2017 | 500 | None |
| 1000 | 10.09.2016 ~ 13.02.2017 |
| 2000 | None |
| 27.03.2017 ~ 25.09.2017 | 300 | None |
| 1000 | None |
| 2000 | None |

**Supplementary Table 2.** Sampling times, cup open intervals, total particulate matter flux, content and flux of biogenic and lithogenic particles, 14C (‰) of sinking POC, and excess Mn flux. ND denotes not-determined (separate file).

**Supplementary Table 3.** POC content (%) and 14C (‰) of surface sediments in the Ulleung Basin and its vicinity.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Station | Location | Sampling Depth (cm) | Water depth( m) | Lat.  (ºN) | Long.  (ºE) | POC  (%) | ETH nr. | 14C  (‰) |
| TEB1 | Shelf | 2-3 | 110 | 37 | 129.5 | 1.9 | 84622.1.1 | −100 |
| DE2 | Slope | 1-2 | 193 | 36.71 | 129.81 | 2.5 | 96062.1.1 | −104 |
| DE3 | Slope | 0-1 | 488 | 36.73 | 129.86 | 2.4 | 96070.1.1 | −101 |
| DE4 | Inner basin | 1-2 | 1089 | 36.71 | 130.02 | 2.6 | 96063.1.1 | −134 |
| ES | Inner basin | 0-1 | 2327 | 37.65 | 131.35 | 2.4 | 96075.1.1,  96081.1.1 | −144 |
| TEB5 | Inner basin | 0-1 | 2165 | 37 | 131 | 2.5 |  | −1041) |
| TEE5 | Korea Strait | 0-1 | 152 | 35.18 | 129.8 | 0.7 | 84619.1.1,  84638.1.1 | −128 |

1) from Kim et al. (2017).