**Supplementary Material**

**Table A1: Sampling data of the stratified vertical hauls with the Multinet (Hydro-Bios) on MSM 80.**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Date | Station | Time UTC(hh:mm) | Time local(hh:mm) | Lat S | Long W | Sea surface temperature (°C) | Maximum depth (m) | Sampling depth intervals (m) |
| 27.12.2018 | 1 | 22:42 | 17:42 | -8.51 | -80.99 | 23.8 | 6200 |  |  | 200-100 | 100-50 | 50-0 |
| 27.12.2018 | 1 | 23:39 | 18:39 | -8.51 | -80.99 | 23.8 | 6200 | 1000-800 | 800-600 | 600-400 | 400-200 | 200-0 |
| 28.12.2018 | 4 | 15:41 | 10:41 | -8.52 | -80.49 | 23.4 | 1333 | 1000-500 | 500-200 | 200-100 | 100-50 | 50-0 |
| 28.12.2018 | 7 | 23:25 | 18:25 | -8.50 | -80.03 | 23.2 | 357 | 350-200 | 200-100 | 100-50 | 50-20 | 20-0 |
| 29.12.2018 | 10 | 09:13 | 04:13 | -8.51 | -79.66 | 21.8 | 100 |  |  |  | 90-50 | 50-0 |
| 29.12.2018 | 13 | 16:28 | 11:28 | -8.54 | -79.34 | 21.7 | 78 |  |  |  | 70-30 | 30-0 |
| 29.12.2018 | 14 | 20:30 | 15:30 | -8.51 | -79.16 | 20.9 | 64 |  |  |  | 58-30 | 30-0 |
| 30.12.2018 | 15 | 03:57 | 22:37 | -9.01 | -80.06 | 23.2 | 1013 | 1000-500 | 500-200 | 200-100 | 100-50 | 50-0 |
| 01.01.2019 | 18 | 15:57 | 10:57 | -9.51 | -80.00 | 22.7 | 2403 | 1000-500 | 500-200 | 200-100 | 100-50 | 50-0 |
| 01.01.2019 | 20 | 04:45 | 23:45 | -9.53 | -79.66 | 22.7 | 835 | 820-500 | 500-200 | 200-100 | 100-50 | 50-0 |
| 02.01.2019 | 25 | 20:13 | 15:13 | -9.51 | -78.99 | 23.2 | 135 |  |  | 130-90 | 90-50 | 50-0 |
| 02.01.2019 | 28 | 04:25 | 23:25 | -9.51 | -78.66 | 22.5 | 109 |  |  |  | 100-50 | 50-0 |
| 03.01.2019 | 30 | 09:40 | 04:40 | -9.51 | -78.45 | 18.8 | 80 |  |  |  | 75-50 | 50-0 |
| 03.01.2019 | 31 | 20:58 | 15:58 | -9.67 | -79.73 | 23.1 | 1179 | 1000-500 | 500-200 | 200-100 | 100-50 | 50-0 |
| 04.01.2019 | 33 | 14:19 | 09:19 | -9.98 | -79.12 | 23.3 | 239 |  |  | 200-100 | 100-50 | 50-0 |
| 04.01.2019 | 34 | 22:04 | 17:04 | -10.50 | -79.01 | 24.1 | 1099 | 1000-500 | 500-200 | 200-100 | 100-50 | 50-0 |
| 05.01.2019 | 36 | 17:10 | 12:10 | -11.51 | -78.29 | 23.2 | 1058 | 1000-500 | 500-200 | 200-100 | 100-50 | 50-0 |
| 06.01.2019 | 40 | 20:39 | 15:39 | -12.00 | -77.50 | 21.1 | 140 |  |  | 130-100 | 100-50 | 50-0 |
| 06.01.2019 | 43 | 04:48 | 23:48 | -12.02 | -77.61 | 20.8 | 178 |  |  | 170-100 | 100-50 | 50-0 |
| 07.01.2019 | 46 | 02:26 | 21:26 | -12.00 | -78.00 | 22.1 | 1606 | 600-400 | 400-200 | 200-100 | 100-50 | 50-0 |
| 08.01.2019 | 46 | 08:15 | 03:15 | -12.00 | -78.00 | 22.7 | 1611 | 600-400 | 400-200 | 200-100 | 100-50 | 50-0 |
| 08.01.2019 | 46 | 14:45 | 09:45 | -12.00 | -78.00 | 21.4 | 1612 | 600-400 | 400-200 | 200-100 | 100-50 | 50-0 |
| 08.01.2019 | 46 | 20:25 | 15:25 | -12.00 | -78.00 | 22.7 | 1615 | 600-400 | 400-200 | 200-100 | 100-50 | 50-0 |
| 09.01.2019 | 48 | 14:07 | 09:07 | -12.50 | -77.67 | 22.1 | 828 | 820-500 | 500-200 | 200-100 | 100-50 | 50-0 |
| 09.01.2019 | 49 | 23:40 | 18:40 | -12.51 | -76.88 | 20.0 | 108 |  |  |  |  | 80-0 |
| 10.01.2019 | 51 | 17:42 | 12:42 | -13.51 | -76.44 | 22.2 | 104 |  |  |  | 100-50 | 50-0 |
| 12.01.2019 | 56 | 14:49 | 09:49 | -14.50 | -77.00 | 23.3 | 6200 | 1000-500 | 500-200 | 200-100 | 100-50 | 50-0 |
| 12.01.2019 | 58 | 22:10 | 17:10 | -14.51 | -76.66 | 22.5 | 2592 | 1000-500 | 500-200 | 200-100 | 100-50 | 50-0 |
| 14.01.2019 | 67 | 17:40 | 12:40 | -15.32 | -75.33 | 19.9 | 135 |  |  | 130-50 | 50-20 | 20-0 |
| 14.01.2019 | 68 | 23:46 | 18:46 | -15.33 | -75.40 | 19.9 | 480 |  | 470-200 | 200-100 | 100-50 | 50-0 |
| 15.01.2019 | 70 | 13:45 | 08:45 | -14.85 | -75.96 | 18.7 | 200 |  |  | 190-100 | 100-50 | 50-0 |
| 16.01.2019 | 74 | 19:58 | 14:58 | -15.31 | -76.49 | 21.0 | 3808 | 1000-500 | 500-200 | 200-100 | 100-50 | 50-0 |
| 17.01.2019 | 80 | 20:23 | 15:23 | -15.30 | -75.58 | 22.1 | 1174 | 600-400 | 400-200 | 200-100 | 100-50 | 50-0 |
| 17.01.2019 | 80 | 02:43 | 21:43 | -15.31 | -75.59 | 21.7 | 1190 | 600-400 | 400-200 | 200-100 | 100-50 | 50-0 |
| 18.01.2019 | 80 | 08:16 | 03:16 | -15.30 | -75.58 | 21.8 | 1169 | 600-400 | 400-200 | 200-100 | 100-50 | 50-0 |
| 18.01.2019 | 80 | 14:21 | 09:21 | -15.29 | -75.58 | 21.8 | 1134 | 600-400 | 400-200 | 200-100 | 100-50 | 50-0 |
| 22.01.2019 | 94 | 13:18 | 08:18 | -15.98 | -75.00 | 22.3 | 2871 | 1000-500 | 500-200 | 200-100 | 100-50 | 50-0 |
| 22.01.2019 | 95 | 21:18 | 16:18 | -16.01 | -74.16 | 20.7 | 124 |  |  | 120-100 | 100-50 | 50-0 |
| 23.01.2019 | 96 | 21:10 | 16:10 | -16.01 | -75.99 | 23.5 | 3773 | 1000-500 | 500-200 | 200-100 | 100-50 | 50-0 |
| 24.01.2019 | 99 | 11:09 | 06:09 | -16.00 | -75.25 | 22.7 | 4712 | 1000-500 | 500-200 | 200-100 | 100-50 | 50-0 |
| 24.01.2019 | 102 | 21:09 | 16:09 | -16.02 | -74.49 | 21.4 | 912 | 900-500 | 500-200 | 200-100 | 100-50 | 50-0 |
| 25.01.2019 | 104 | 08:00 | 03:00 | -16.04 | -74.31 | 21.8 | 514 |  | 500-200 | 200-100 | 100-50 | 50-0 |

**Table A2: Sampling information of particulate organic matter (POM) from CTD casts.**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Date | Station | Time UTC(hh:mm) | Time local(hh:mm) | Lat S | Long W | Sea surface temperature (°C) | Maximum depth (m) | Sampling depths (m) |
| 27.12.2018 | 1 | 18:52 | 11:52 | -8.50 | -81.00 | 23.8 | 6200 | 10 | 25 | 40 |  |  |
| 28.12.2018 | 4 | 12:15 | 07:15 | -8.52 | -80.49 | 23.4 | 1333 | 10 | 25 | 40 |  |  |
| 28.12.2018 | 7 | 22:00 | 17:00 | -8.50 | -80.03 | 23.2 | 357 | 10 | 25 | 40 |  |  |
| 30.12.2018 | 15 | 00:33 | 19:33 | -8.97 | -80.07 | 23.2 | 1013 | 8 | 18 | 30 | 40 | 50 |
| 01.01.2019 | 18 | 13:00 | 08:00 | -9.50 | -80.00 | 22.7 | 2403 | 10 | 20 | 30 | 40 |  |
| 01.01.2019 | 20 | 01:40 | 20:40 | -9.50 | -79.67 | 22.7 | 835 | 10 | 20 | 27 | 40 |  |
| 02.01.2019 | 25 | 18:10 | 13:10 | -9.50 | -79.00 | 23.2 | 135 | 10 | 30 | 50 |  |  |
| 03.01.2019 | 30 | 07:30 | 02:30 | -9.50 | -78.45 | 18.8 | 80 | 7 | 17 | 40 |  |  |
| 03.01.2019 | 31 | 17:50 | 10:50 | -9.67 | -79.75 | 23.1 | 1179 | 10 | 22 | 30 | 50 |  |
| 06.01.2019 | 40 | 18:45 | 13:45 | -12.00 | -77.50 | 21.1 | 140 | 5 | 15 | 25 | 50 |  |
| 07.01.2019 | 46 | 18:51 | 13:51 | -12.00 | -78.00 | 22.1 | 1606 | 5 | 20 | 30 | 50 |  |
| 10.01.2019 | 51 | 16:14 | 11:14 | -13.49 | -76.44 | 22.2 | 104 | 10 | 20 | 30 | 50 |  |
| 16.01.2019 | 74 | 16:45 | 11:45 | -15.30 | -76.50 | 21.0 | 3808 | 5 | 18 | 30 | 40 | 50 |
| 17.01.2019 | 80 | 13:30 | 08:30 | -15.30 | -75.58 | 22.1 | 1174 | 5 | 12 | 20 | 30 |  |
| 24.01.2019 | 99 | 04:23 | 23:23 | -16.00 | -75.25 | 22.7 | 4712 | 5 | 10 | 40 |  |  |
| 24.01.2019 | 102 | 01:21 | 20:21 | -16.00 | -74.50 | 21.4 | 912 | 5 | 15 | 25 | 35 | 50 |
| 25.01.2019 | 104 | 04:31 | 23:31 | -16.00 | -74.33 | 21.8 | 514 | 5 | 12 | 25 | 35 | 50 |