**Table S1**: Overview of sampling parameters and depth and the dry weight data for the copepods throughout this study.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|   |   |  |   |   |   Enzyme and dry mass samples, depth (m) | Dry mass (µg) |
|   |   |  |   |   | *C. finmarchicus* |   | *C. glacialis* |
| Station | Date | Daylength (h) | Gear | Community samples, depth intervals (m) | stage | Dry mass (µg) | SD |   | stage | Dry mass (µg) | SD |
| IsK | 09.06.15 | 24 | WP2 (200 µm) | 255-200-100-50-20-0 | 150-0 |   |   |   |   |   |   |   |
| IsK | 29.06.15 | 24 | MPS (200 µm)  | 180-150-100-50-20-0 | 100-0 | F | 437.9 | 123.6 |   | F | 602.3 | 133.0 |
| IsK | 29.06.15 | 24 | MPS (200 µm) |   | 100-0 |   |   |   |   | CV | 411.7 | 101.8 |
| IsK | 14.07.15 | 24 | WP2 (200 µm) | 260-200-100-50-20-0 | 50-0 |   |   |   |   | CV | 386.7 | 119.3 |
| IsK | 24.08.15 | 24 | MPS (200 µm) | 250-150-100-50-20-0 | 250-150 | CV | 347.1 | 149.5 |   |   |   |   |
| IsK | 15.09.15 | 14.5 | MPS (200 µm) | 250-150-100-50-20-0 | 250-150 | CV | 305.4 | 109.7 |   | CV | 370.8 | 109.7 |
| IsK | 20.10.15 | 5 | MPS (200 µm) | 262-200-100-50-20-0 | 262-200 | CV | 262.1 | 85.5 |   | CV | 370.0 | 184.3 |
| IsK | 02.11.15 | 0 | MPS (200 µm) | 260-200-100-50-20-0 | 260-100 | CV | 262.1 | 85.5 |   | CV | 370.0 | 184.3 |
| IsK | 01.12.15 | 0 | MPS (200 µm) | 243-200-100-50-20-0 | 200-100 |   |   |   |   | CIV | 160.5 | 68.5 |
| IsK | 01.12.15 | 0 | MPS (200 µm) | 243-200-100-50-20-0 | 200-100 | CV | 259.6 | 229.3 |   | CV | 420.7 | 195.8 |
| IsK | 11.01.16 | 0 | MPS (200 µm) | 258-200-100-50-20-0 | 258-100 | CV | 210.3 | 85.8 |   | CV | 335.7 | 89.3 |
| IsK | 18.01.16 | 0 | MPS (200 µm) |   |   |   |   |   |   | F | 777.3 | 217.0 |
| IsK | 18.01.16 | 0 | MPS (200 µm) |   |   |   |   |   |   | M | 739.9 | 163.3 |
| IsK | 17.02.16 | 2.3 | WP2 (200 µm) | 250-100-50-20-0 | 250-100 | CV | 274.2 | 125.5 |   | CV | 298.3 | 80.1 |
| IsK | 21.03.16 | 13 | WP2 (200 µm) | 250-100-50-20-0 | 250-100 | CV | 173.3 | 66.2 |   | CIV | 108.8 | 35.3 |
| IsK | 04.04.16 | 16.5 | WP2 (200 µm) | 260-100-50-20-0 | 50-0 | CV | 114.6 | 43.8 |   | F | 325.0 | 95.2 |
| IsK | 04.04.16 | 16.5 | WP2 (200 µm) | 260-100-50-20-0 | 260-180 | CV | 167.5 | 38.6 |   | F | 394.3 | 186.1 |
| IsK | 02.05.16 | 24 | MPS (200 µm) |   | 50-0 | F | 217.1 | 51.5 |   | F | 364.6 | 80.3 |
| IsK | 15.05.16 | 24 | MPS (200 µm) | 260-200-100-50-20-0 | 50-0 | F | 371.3 | 84.1 |   | F | 670.4 | 246.9 |
| IsK | 05.06.16 | 24 | MPS (200 µm) | 260-200-100-50-20-0 | 50-0 | F | 427.7 | 324.0 |   | CIV | 314.6 | 81.9 |
| IsK | 05.07.16 | 24 | MPS (200 µm) | 260-200-100-50-20-0 | 200-100 | CV | 214.2 | 51.6 |   | CV | 653.6 | 243.4 |
| IsK | 31.08.16 | 19 | MPS (200 µm) | 260-200-100-50-20-0 | 200-100 | CV | 305.4 | 112.3 |   | CV | 795.4 | 188.0 |
| N-ICE | 10.02.15 | 0 | MPS (200 µm) | 2600-600-200-50-20-0 | - |   |   |   |   |   |   |   |
| N-ICE | 07.03.15 | 6 | WP2 (200 µm) | 1000-600-200-85-0 | 200-0 | CV | 170.6 | 39.3 |   | F | 520.4 | 150.0 |
| N-ICE | 07.03.15 | 6 | WP2 (200 µm) | 1000-600-200-85-0 | 200-0 | F | 205.0 | 50.4 |   | F | 917.9 | 242.8 |
| N-ICE | 14.03.15 | 9.75 | WP2 (200 µm) | 1000-600-200-85-0 | 200-0 | CV | 257.6 | 102.3 |   |   |   |   |
| N-ICE | 14.03.15 | 9.75 | WP2 (200 µm) | 1000-600-200-85-0 | 200-0 | F | 350.0 | 162.9 |   |   |   |   |
| N-ICE | 21.03.15 |  | MPS (200 µm) | 1500-600-200-50-20-0 | - |   |   |   |   |   |   |   |
| N-ICE | 12.04.15 |  | MPS (200 µm) | 520-200-100-50-20-0 | - |   |   |   |   |   |   |   |
| N-ICE | 12.04.15 |  | MPS (200 µm) | 670-200-100-50-20-0 | - |   |   |   |   |   |   |   |
| N-ICE | 13.04.15 |  | MPS (200 µm) | 1000-600-200-50-20-0 | - |   |   |   |   |   |   |   |
| N-ICE | 22.04.15 | 24 | MPS (200 µm) |   | 200-0 |   |   |   |   |   |   |   |
| N-ICE | 25.04.15 |  | MPS (200 µm) | 1300-600-200-50-20-0 | - |   |   |   |   |   |   |   |
| N-ICE | 26.04.15 | 24 | MPS (200 µm) |   | 600-100 | F | 1099.0 | 386.1 |   |   |   |   |
| N-ICE | 03.05.15 |  | MPS (200 µm) | 1600-1000-600-200-50-0 | 600-100 |   |   |   |   |   |  |   |
| N-ICE | 10.05.15 | 24 | MPS (200 µm) | 1700-600-200-50-20-0 | 100-0 | F | 860.5 | 230.9 |   |   |   |   |
| N-ICE | 18.05.15 |  | MPS (200 µm) | 1250-600-200-50-20-0 | 100-0 |   |   |   |   |   |   |   |
| N-ICE | 24.05.15 |  | MPS (200 µm) | 900-600-200-50-20-0 | - |   |   |   |   |   |   |   |
| N-ICE | 25.05.15 |  | MPS (200 µm) |   | 50-0 |   |   |   |   |   |   |   |
| N-ICE | 26.05.15 |  | MPS (200 µm) |   | 50-0 |   |   |   |   |   |   |   |
| N-ICE | 31.05.15 | 24 | MPS (200 µm) | 730-600-200-50-20-0 | 100-0 | CV | 211.7 | 99.6 |   |   |   |   |
| N-ICE | 03.06.15 | 24 | MPS (200 µm) |   | 100-0 | CV | 296.8 | 124.1 |   |   |   |   |
| N-ICE | 03.06.15 | 24 | MPS (200 µm) |   | 100-0 | F | 338.0 | 60.2 |   |   |   |   |
| N-ICE | 09.06.15 |  | MPS (200 µm) | 1900-600-200-50-20-0 | - |   |   |   |   |   |   |   |
| N-ICE | 13.06.15 | 24 | MPS (200 µm) |   | 50-0 |   |   |   |   |   |   |   |
| N-ICE | 16.06.15 |  | MPS (200 µm) | 730-600-200-50-20-0 | - |   |   |   |   |   |   |   |
| N-ICE | 19.06.15 | 24 | MPS (200 µm) | 500-200-100-50-20-0 | 100-0 | CV | 361.3 | 191.2 |   |   |  |   |
| N-ICE | 19.06.15 | 24 | MPS (200 µm) |   | 50-0 | F | 403.3 | 98.9 |   | CV | 380.0 | 30.0 |
| Off shelf | 15.09.15 | 15.25 | MPS (200 µm) |   | 680-200 | CV | 382.3 | 169.2 |   |   |   |   |
| Off shelf | 15.01.16 | 0 | MPS (200 µm) |   | 50-0 | CV |   |   |   |   |   |   |
| Off shelf | 15.01.16 | 0 | MPS (200 µm) |   | 600-200 | CV |   |   |   |   |   |   |
| Off shelf | 29.08.16 | 24 | MPS (200 µm) |   | 600-200 | CV | 299.2 | 116.2 |   |   |   |   |