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Supplement of

Deep maxima of phytoplankton biomass, primary production and bacterial production in the Mediterranean Sea

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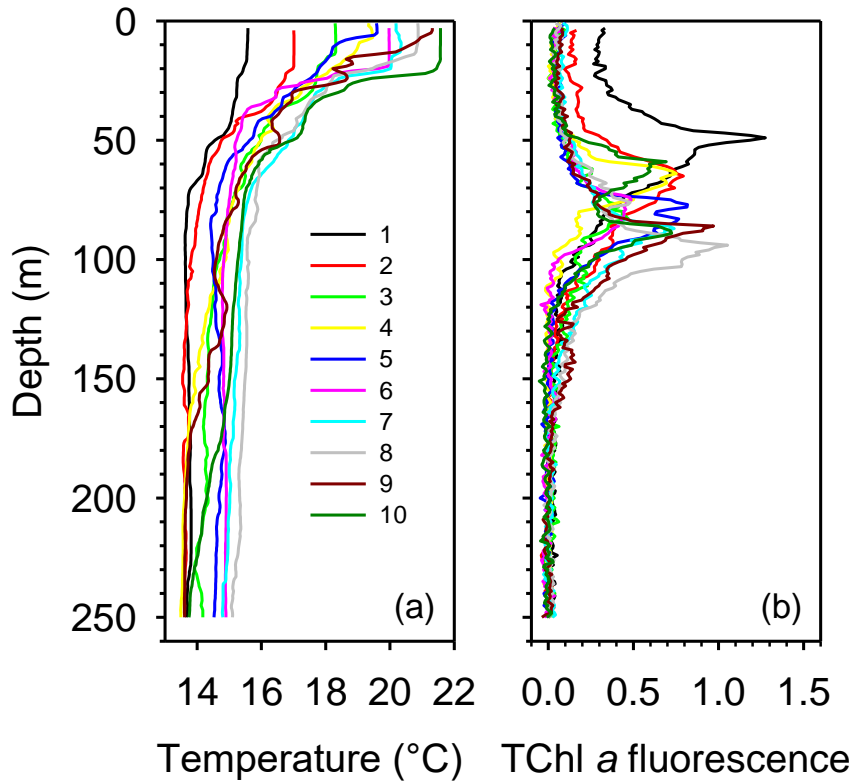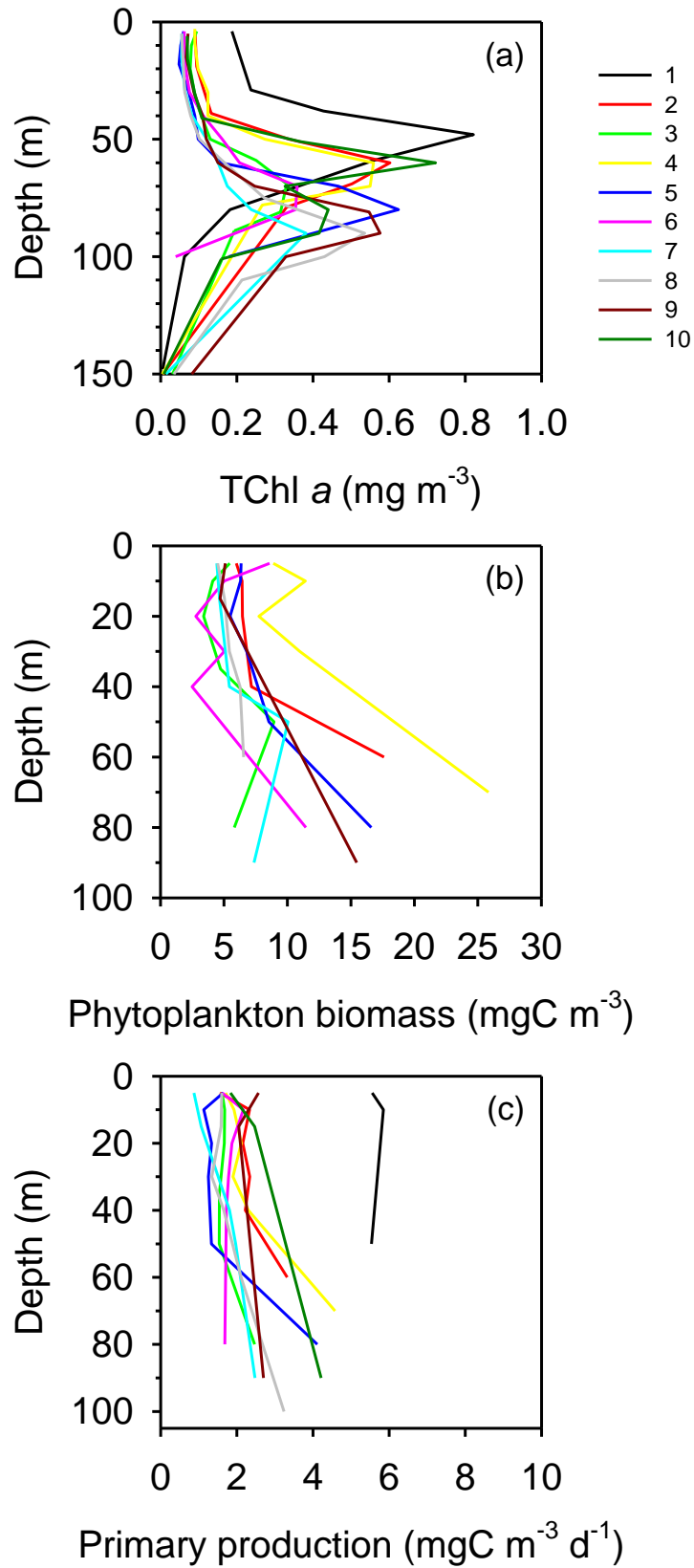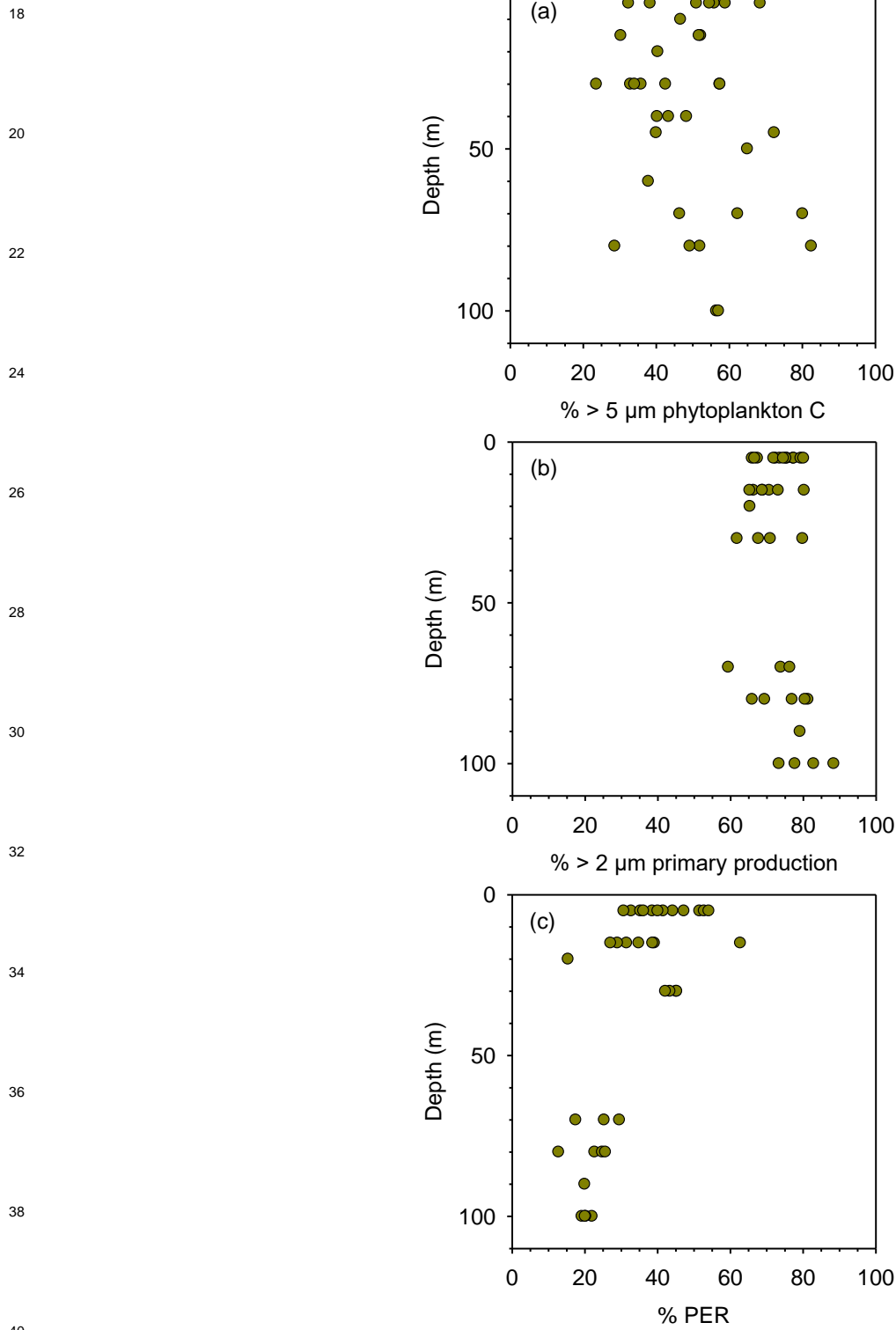
Supplement

**Figure S1.** Vertical profiles of temperature and total chlorophyll *a* fluorescence (0-250 m) at short stations.

Figure S2. Vertical profiles of a) total chlorophyll *a* concentration, b) phytoplankton biomass concentration and c) primary production at short stations.

Figure S3. Vertical distribution of a) the contribution of phytoplankton larger than 5 µm in diameter to total phytoplankton carbon biomass, b) the contribution of > 2 µm phytoplankton to total primary production and c) the percentage of extracellular release at the long stations.
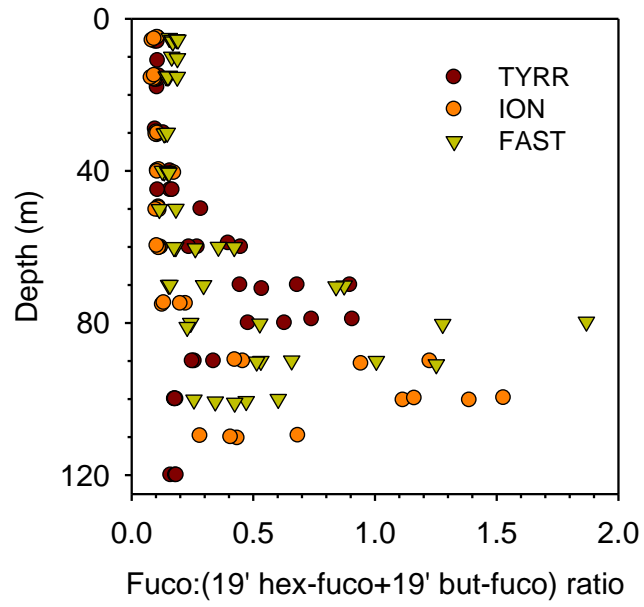
Figure S4. Vertical distribution of the fucoxanthin:(19′-hexanoyloxyfucoxanthin+19′-butanoyloxyfucoxanthin) ratio at the long stations.
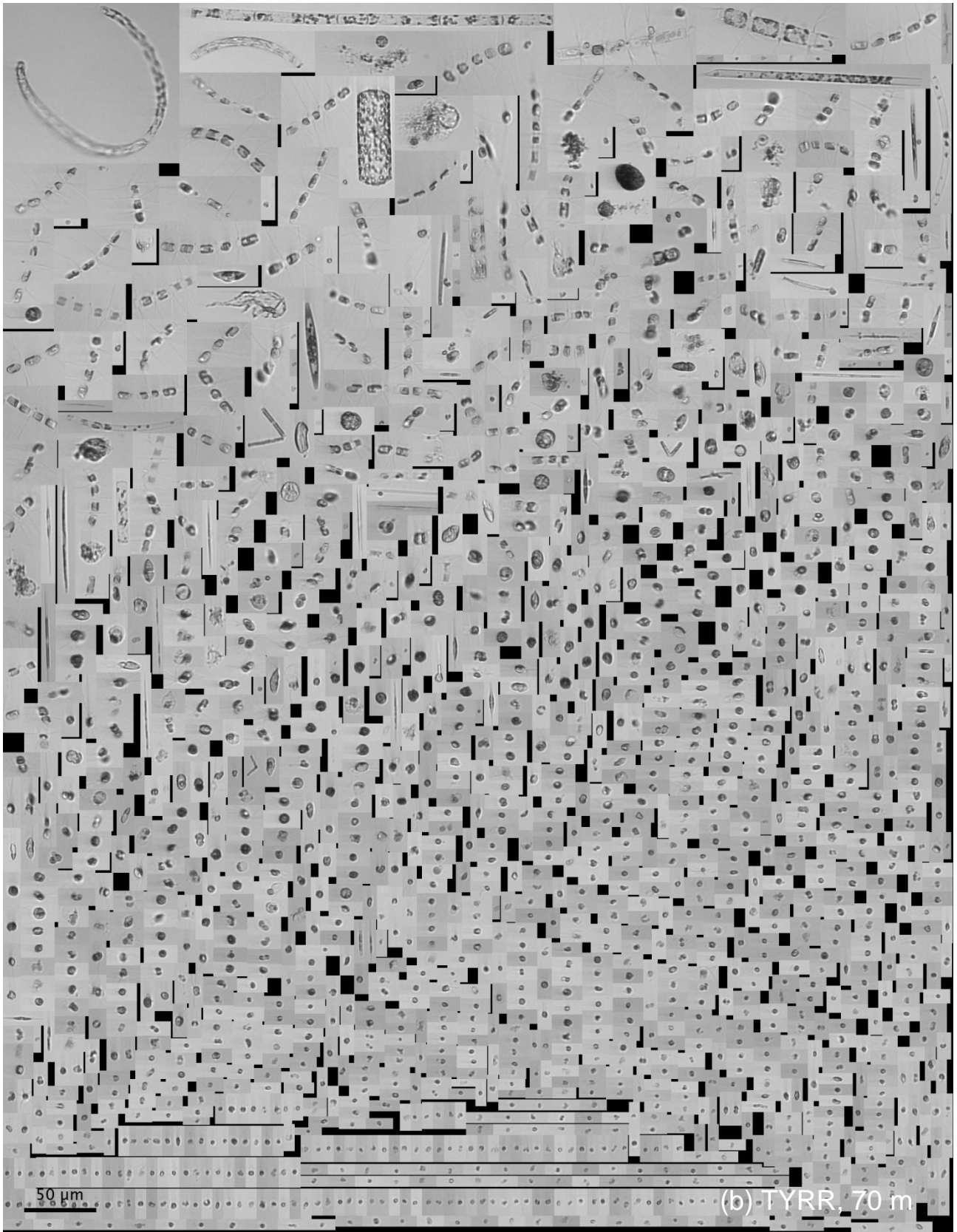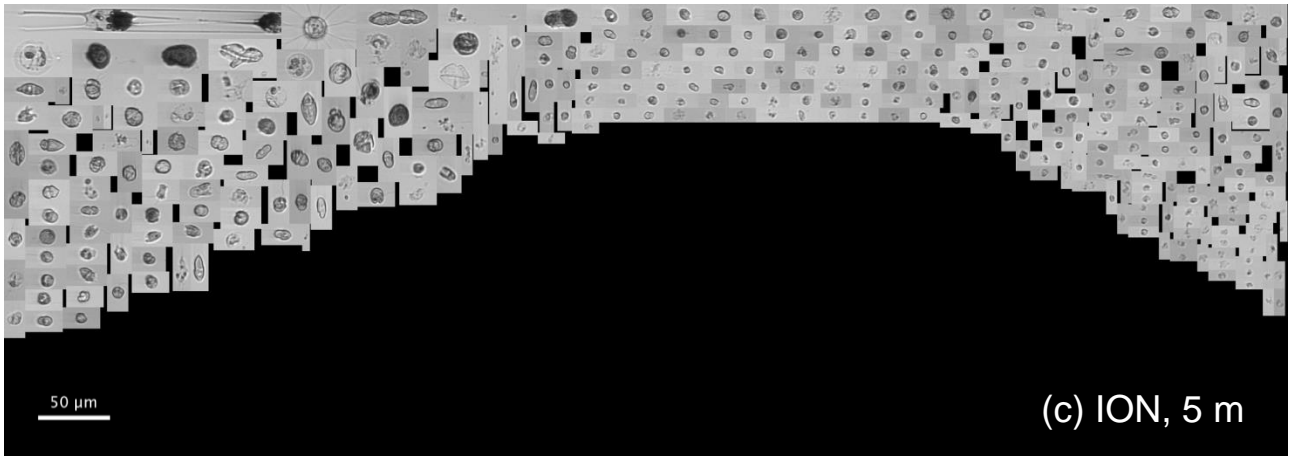
(a) TYRR, 5 m

50 µm
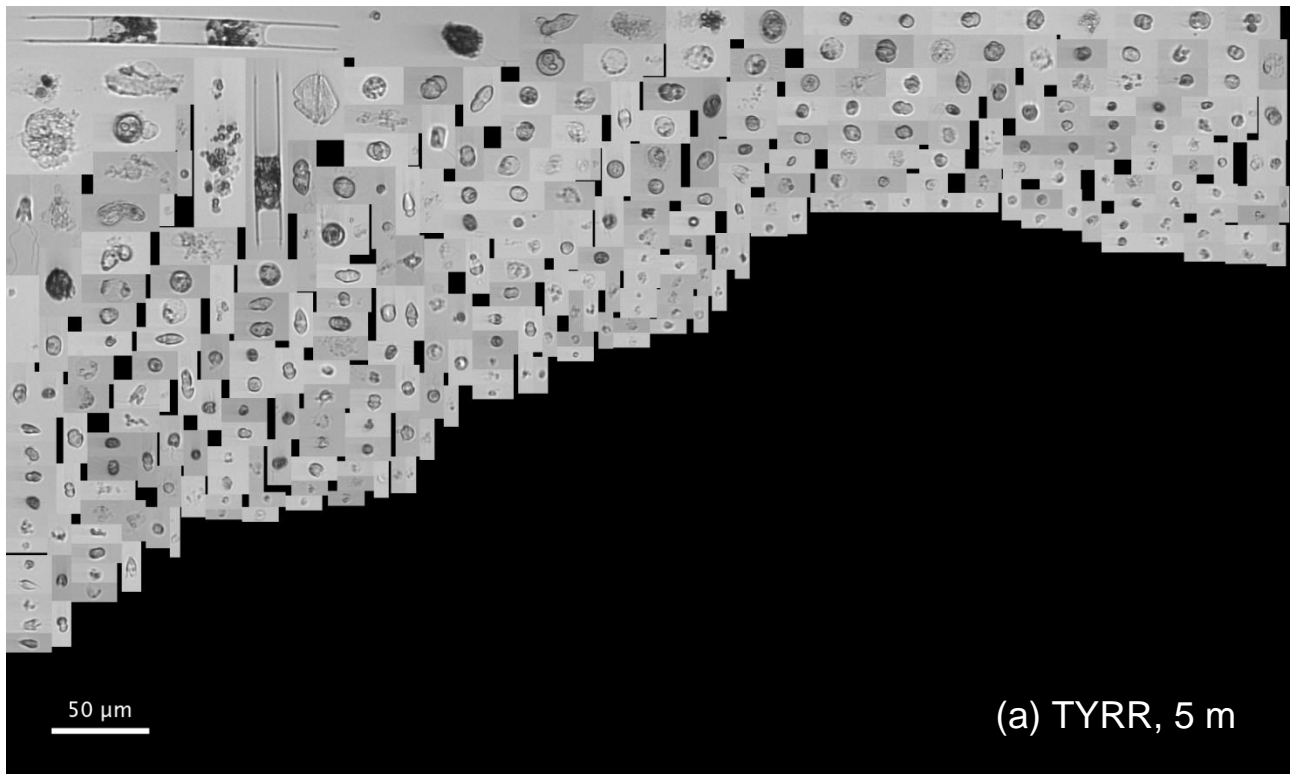
Figure S5. Mosaics of phytoplankton images obtained with an Imaging Flow CytoBot (IFCB) on samples collected from the surface and the deep chlorophyll maximum at the long stations. Each mosaic shows all cells imaged by the IFCB in individual samples from a) station TYRR, 5 m (volume analyzed = 4.84 mL, number of cells imaged = 325); b) station TYRR, 70 m (4.42 mL, 1676 cells); c) station ION, 5 m (4.87 mL, 338 cells); d) station ION, 90 m (4.38 mL, 1807 cells); e) station FAST, 5 m, 4.91 mL, 227 cells); and f) station FAST, 70 m (3.83 mL, 3383 cells).
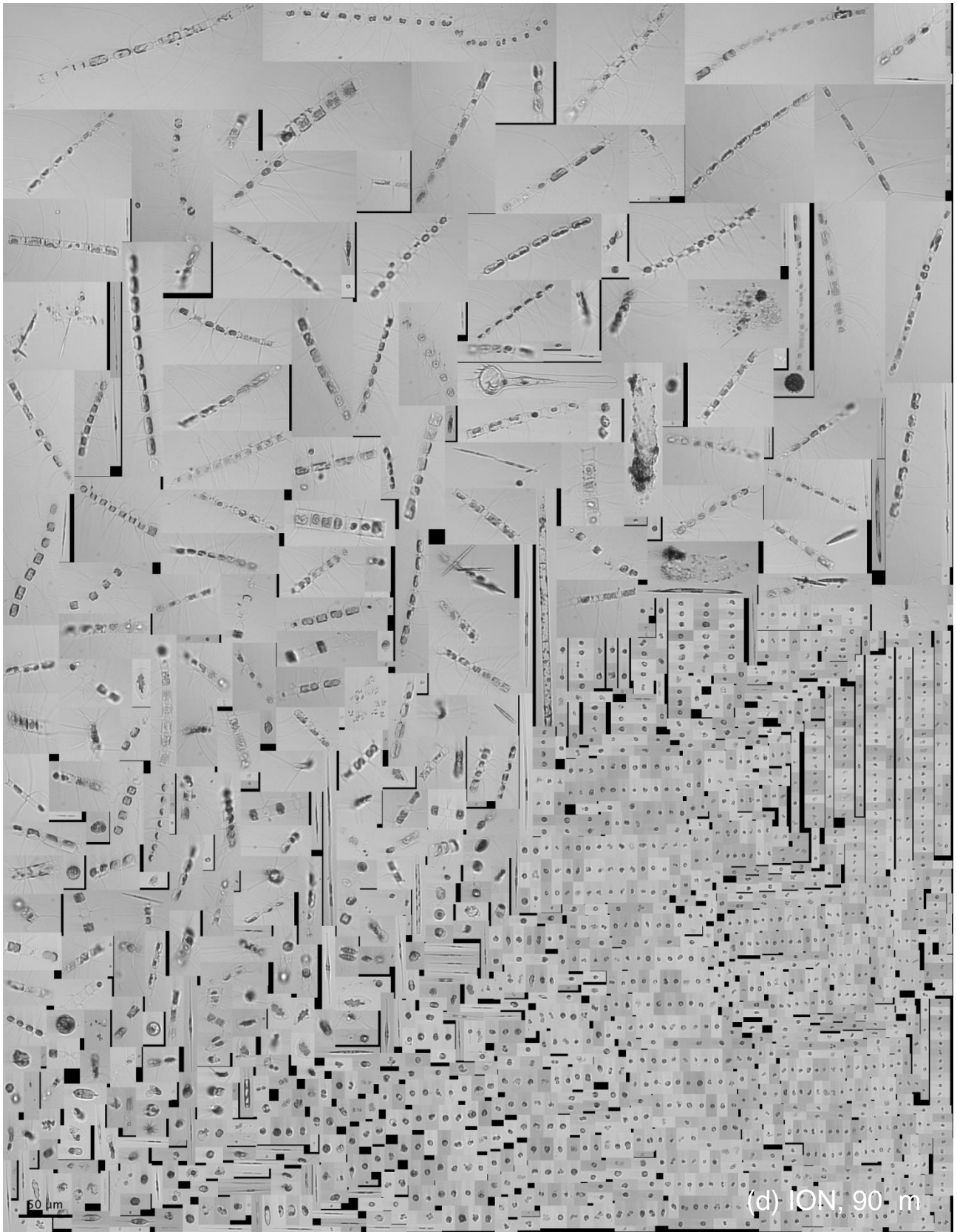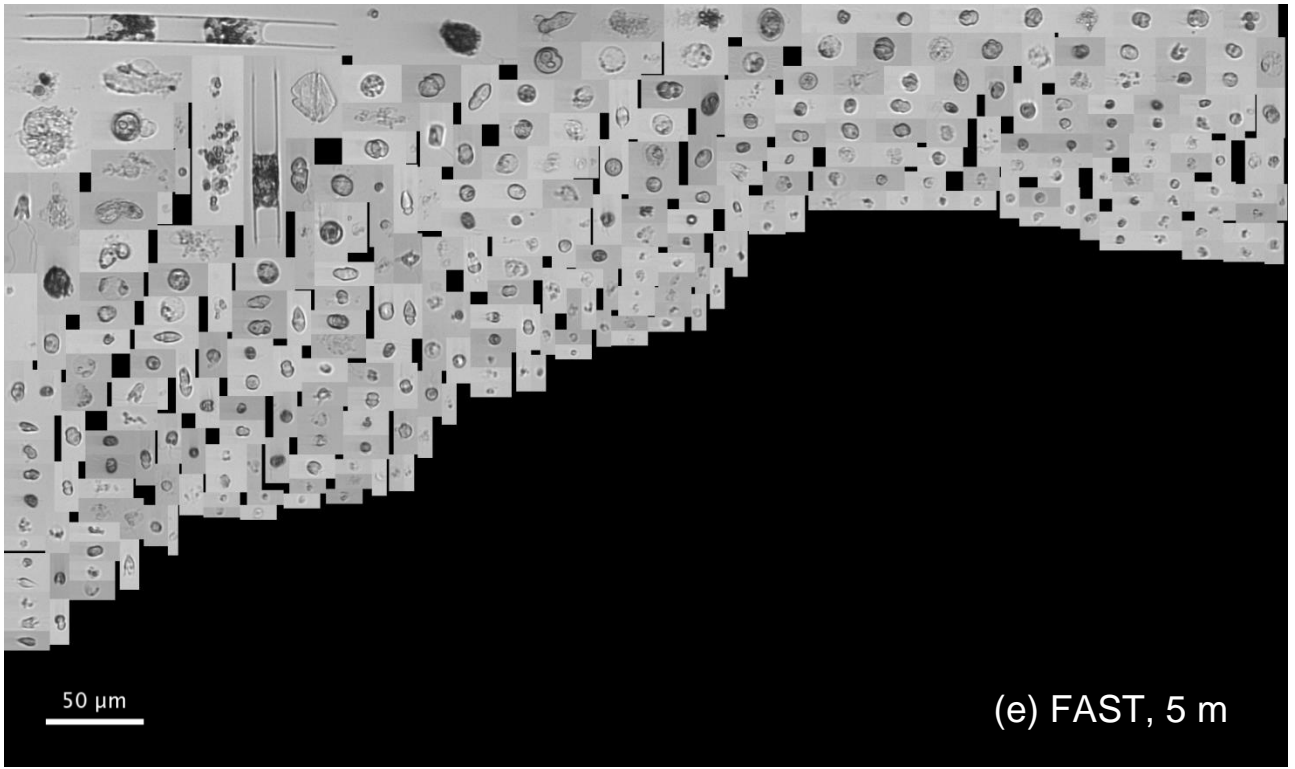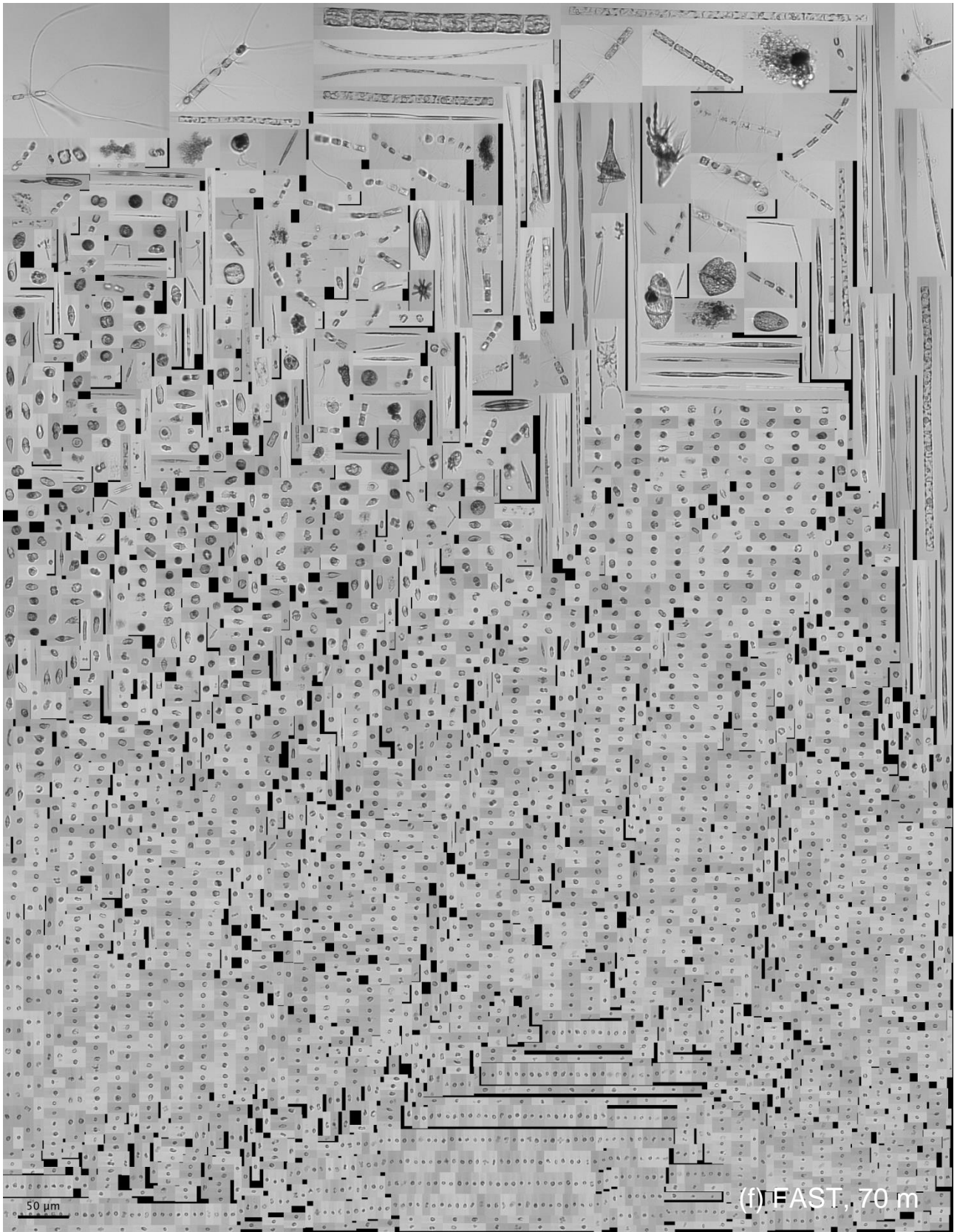
Figure S5. (continued)

(c) ION, 5 m

50 µm

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Figure S5. (continued)

(d) ION, 90 m

Figure S5. (continued).

(e) FAST, 5 m

50 µm

Figure S5. (continued)

(f) FAST, 70 m

50 μm
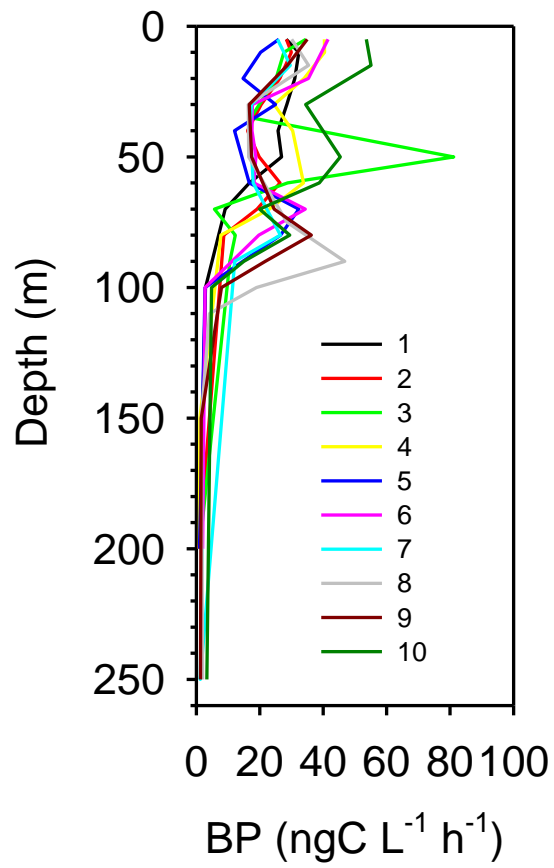
Figure S5. (continued)

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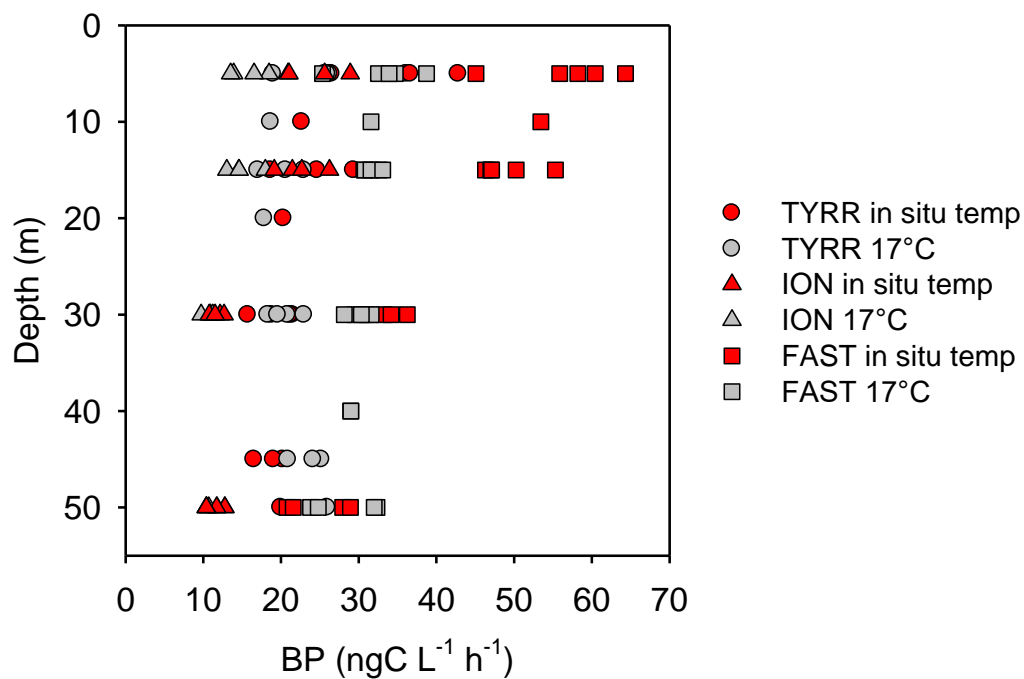**Figure S6.** Vertical profiles of heterotrophic prokaryotic production (BP) at short stations.

Fig. S7. Vertical distribution of bacterial production at in situ temperature and at a constant temperature of 17°C in the upper 50 m of stations TYRR, ION and FAST. Bacterial production at each temperature was calculated taking into account the temperature dependence factors determined experimentally during the cruise (see Methods for details).

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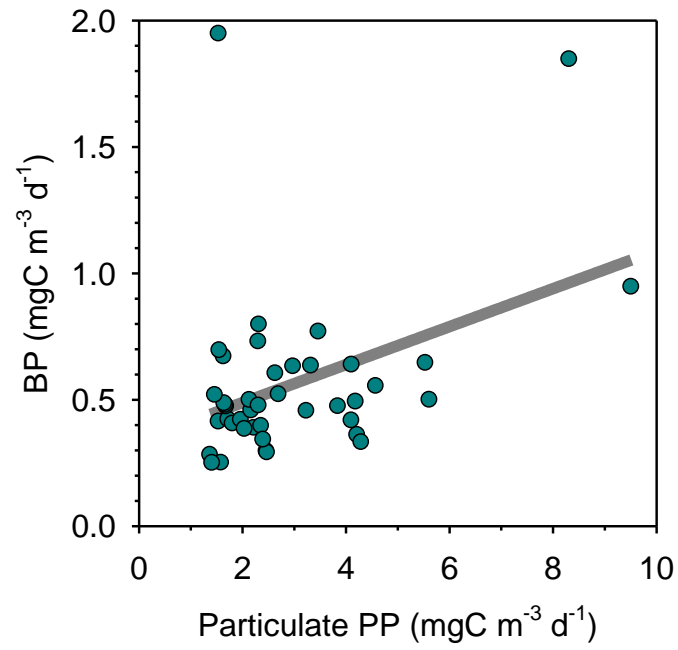
Fig. S8. Relationship between particulate primary production (PP) and heterotrophic prokaryotic production (BP) for samples taken from depths below 30 m in both short and long stations. The linear regression is $y = 0.075\,x + 0.34$ ($r^2 = 0.15$, $n = 42$, $p = 0.011$).