Supplementary material

Figure S1: NO_3^- concentration (µM) during the DUNE-2-R experiment in the Dust-meso at 5- and 10 m depth. The dotted lines represent the time of the dust seedings. Data in the Dust-meso represent the average and standard deviation of the three replicate mesocosms. NO_3^- concentrations were under detection limit (< 30 nM) in the Control-meso and outside over the duration of the experiment as well as in the Dust-meso before seeding (day 0) and at the end of the experiment (day 13).
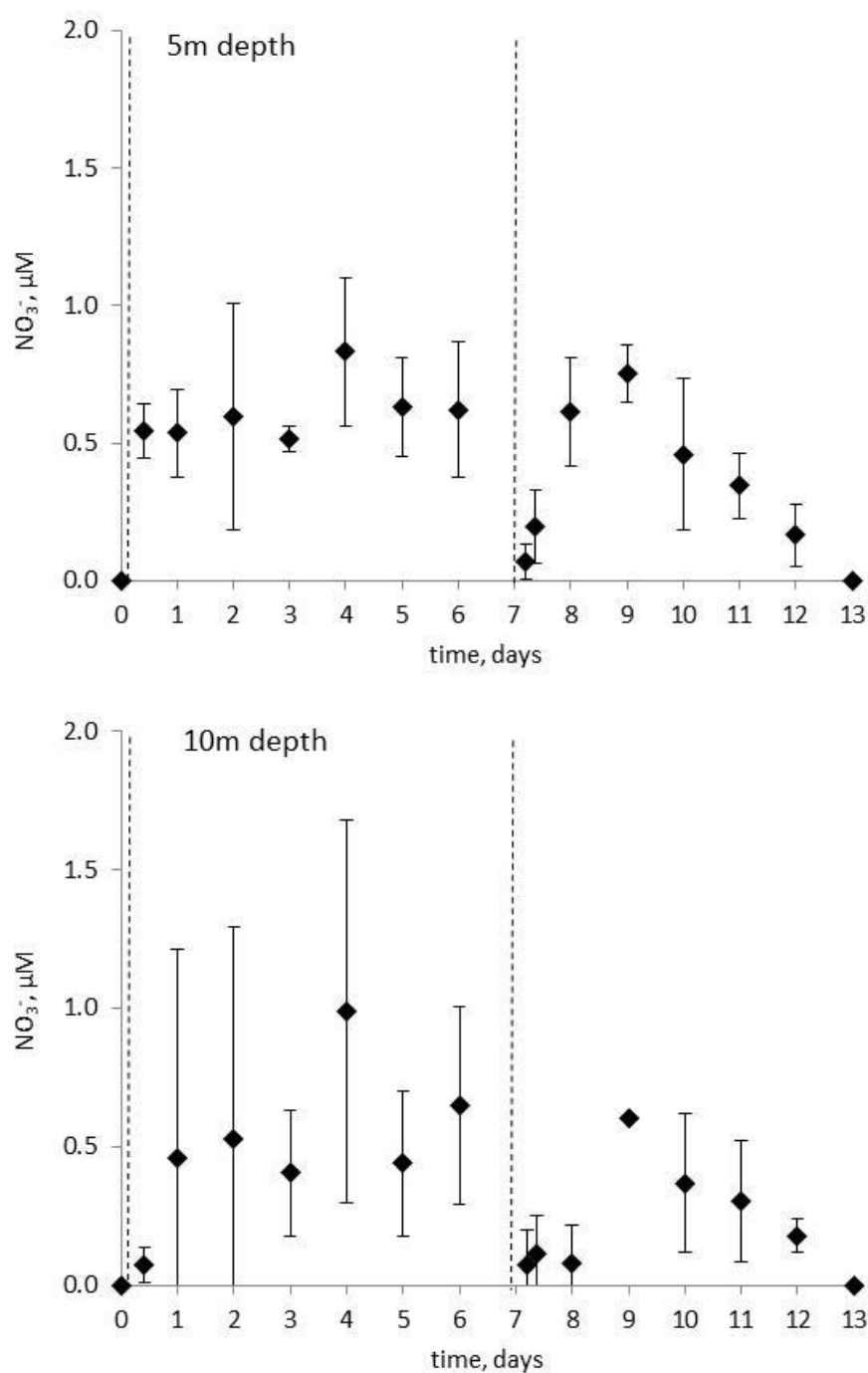
Figure S2: C:N ratio (mol:mol) in the particulate matter in the Control-meso (black dot), Dust-meso (orange dot) and out (gray dot) during DUNE-1-P (A), DUNE-1-Q (B) and DUNE-2-R (C). Data represent the means at 0.1 and 5 m depth for the P and Q experiments and at 5 m depth for the R experiment. The dotted line represents the time of the dust seeding.
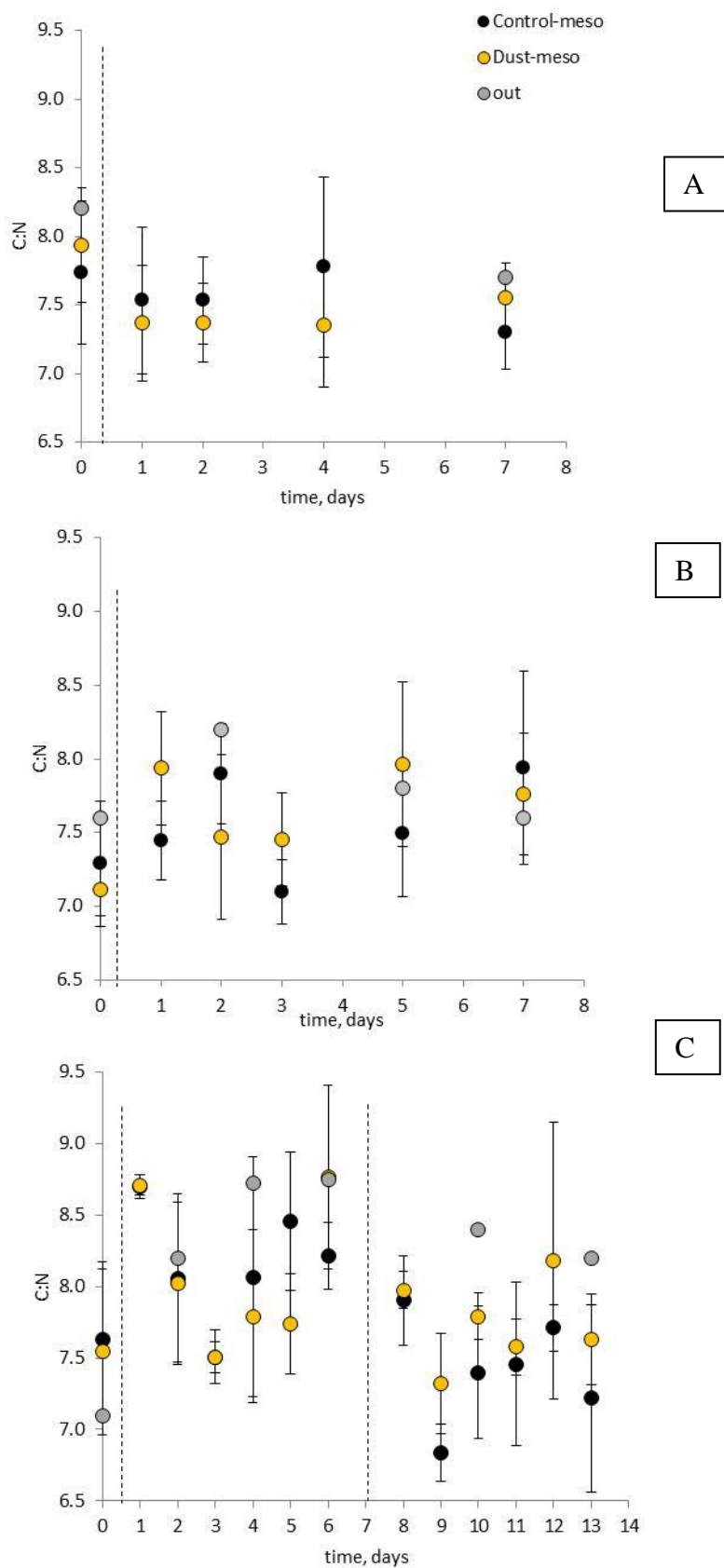
Figure S3: Chlorophyll *a* (Chl *a*) concentration in µg L^{-1} during the DUNE-1-P experiment in the Control-meso (black dot), Dust-meso (orange dot) and out (gray dot) at surface, 5 m- and 10 m depth. The dotted line represents the time of the dust seeding. Data in the Control- and Dust-meso represent the average and standard deviation of the three replicate mesocosms. Means in the Dust-meso that were significantly different from the Control-meso ($p<0.05$) are labeled with the * symbol.

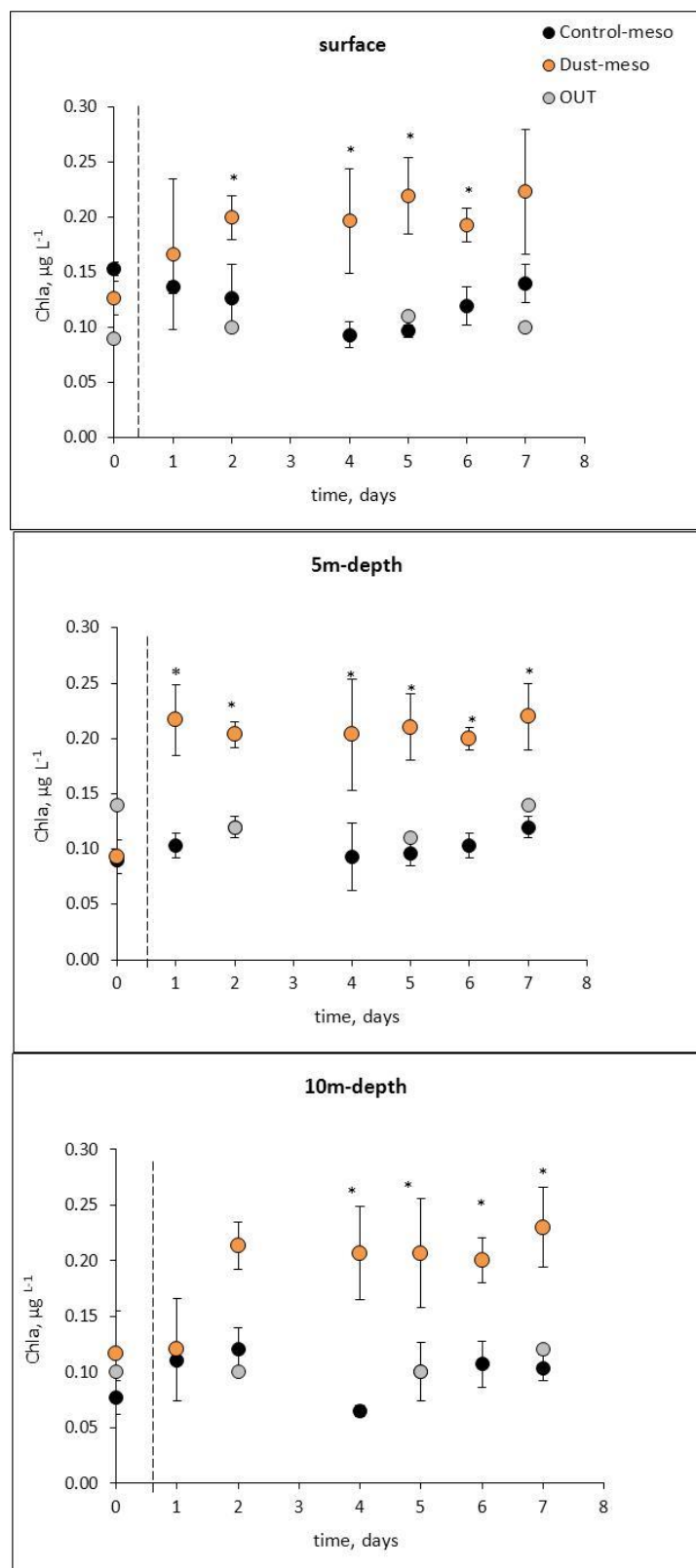Figure S4 – Primary production (PP) in mg C m^{-3} d^{-1} during the DUNE-1-P experiment in the Control-meso (black dot), Dust-meso (orange dot) and out (gray dot) at surface and 5 m-depth. The dotted line represents the time of the dust seeding. Data in the Control- and Dust-meso represent the average and standard deviation of the three replicate mesocosms. Means in Dust-meso that were significantly different from Control-meso ($p < 0.05$) are labeled with the * symbol.
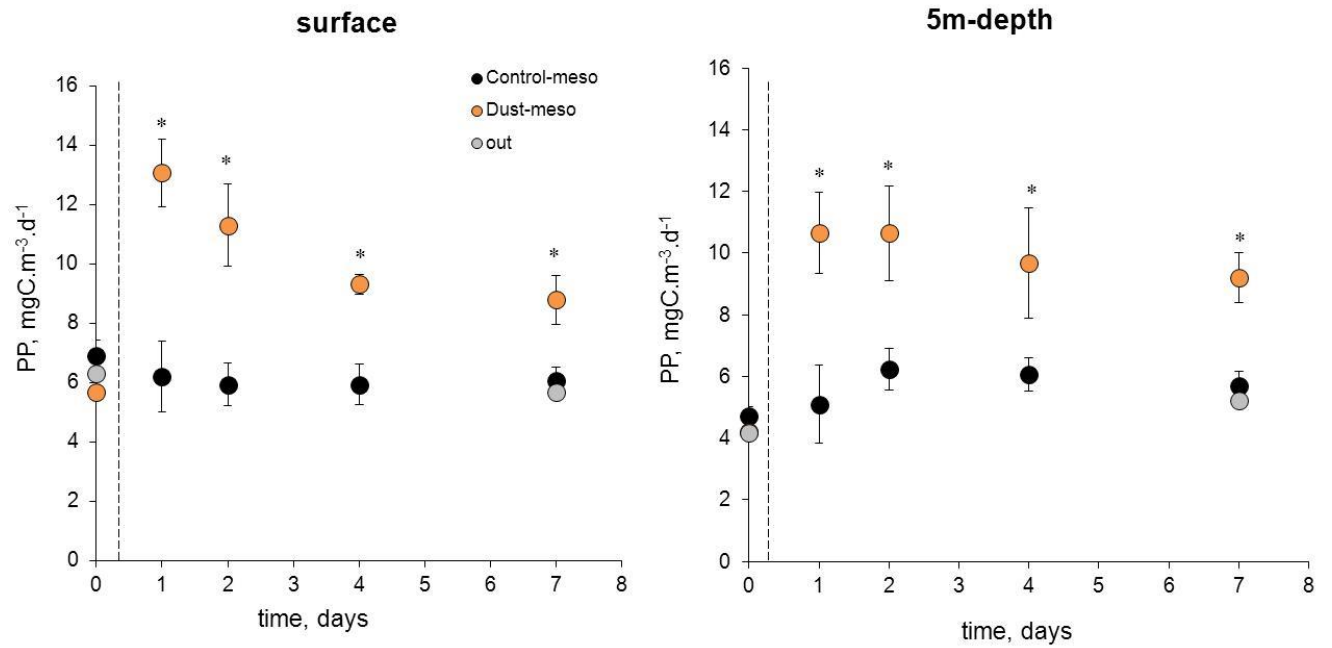
Figure S5: Chlorophyll *a* (Chl *a*) concentration in µg L^{-1} during the DUNE-1-Q experiment in the Control-meso (black dot), Dust-meso (orange dot) and out (gray dot) at surface, 5 m- and 10 m depth. The dotted line represents the time of the dust seeding. Data in the Control- and Dust-meso represent the average and standard deviation of the three replicate mesocosms.
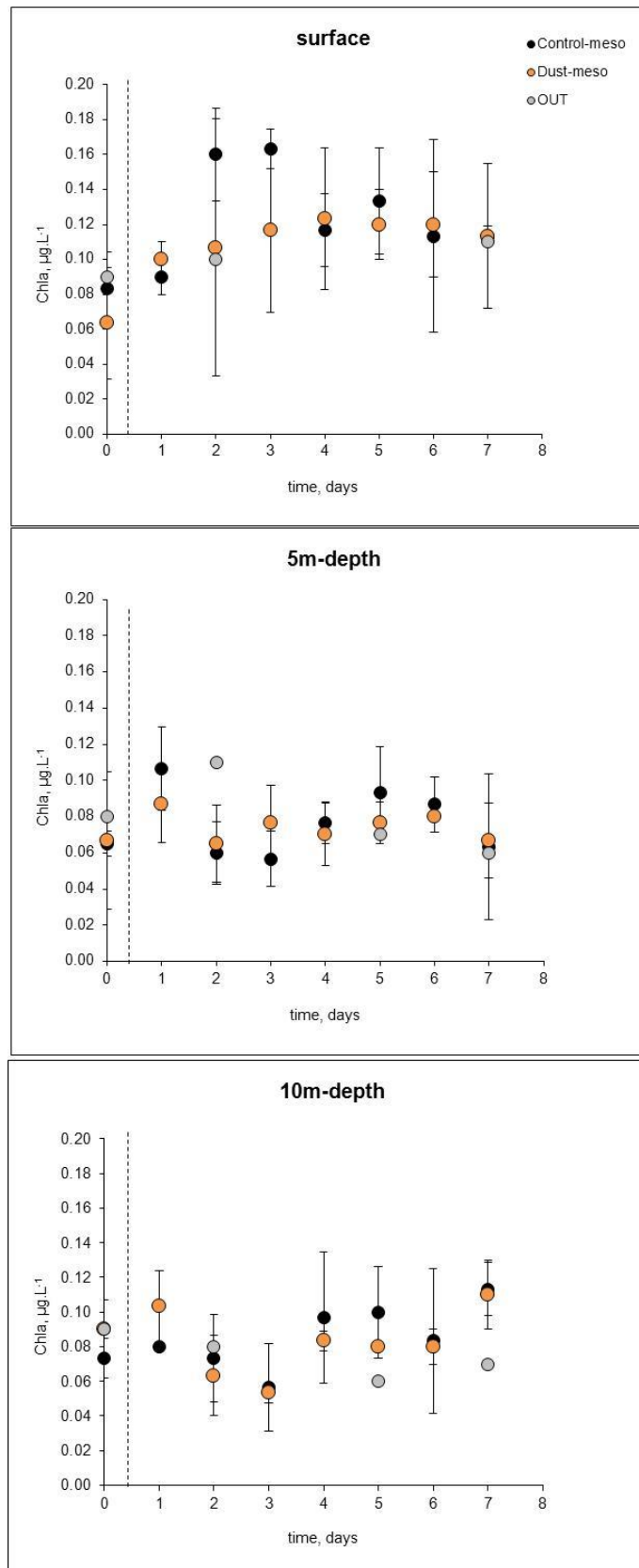
Figure S6 – Primary production (PP) in mg C m^{-3} d^{-1} during the DUNE-1-Q experiment in the Control-meso (black dot), Dust-meso (orange dot) and out (gray dot) at surface and 5 m depth. The dotted line represents the time of the dust seeding. Data in the Control- and Dust-meso represent the average and standard deviation of the three replicate mesocosms. Means in the Dust-meso that were significantly different from the Control-meso ($p<0.05$) are labeled with the * symbol.
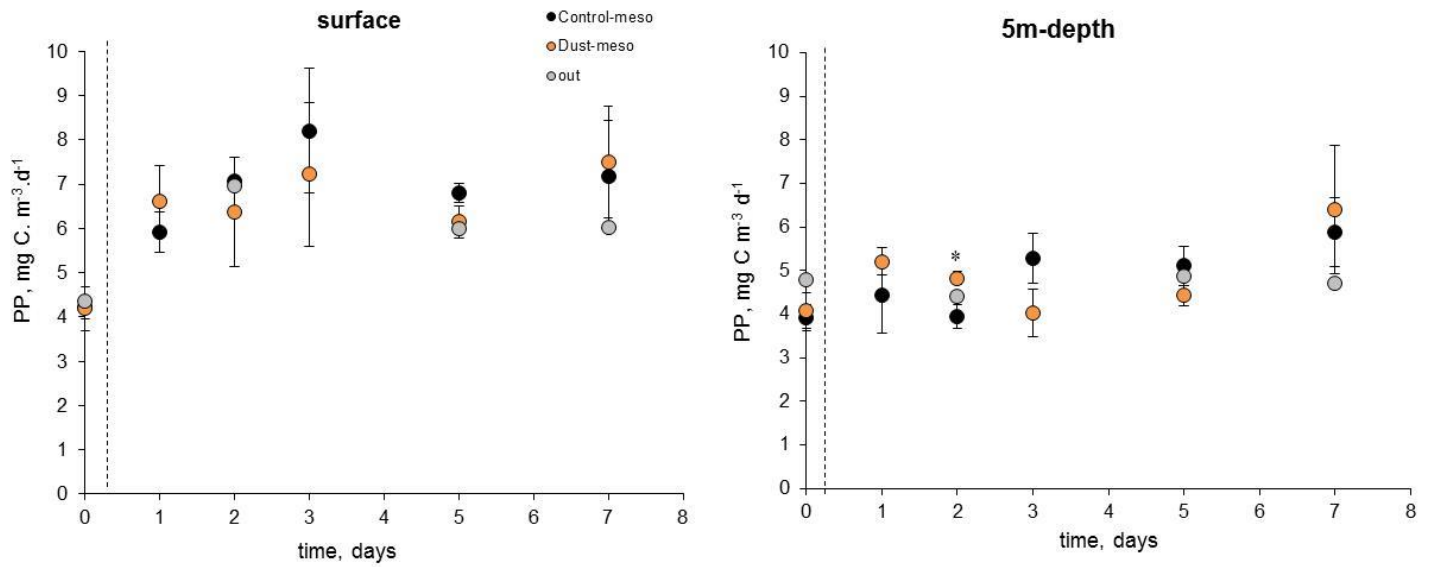
Figure S7: Chlorophyll *a* (Chl *a*) concentration in µg L^{-1} during the DUNE-2-R experiment in the Control-meso (black dot), Dust-meso (orange dot) and out (gray dot) at surface, 5 m and 10 m depth. The dotted line represents the time of the dust seeding. Data in the Control- and Dust-meso represent the average and standard deviation of the three replicate mesocosms. Means in the Dust-meso that were significantly different from the Control-meso ($p<0.05$) are labeled with the * symbol.

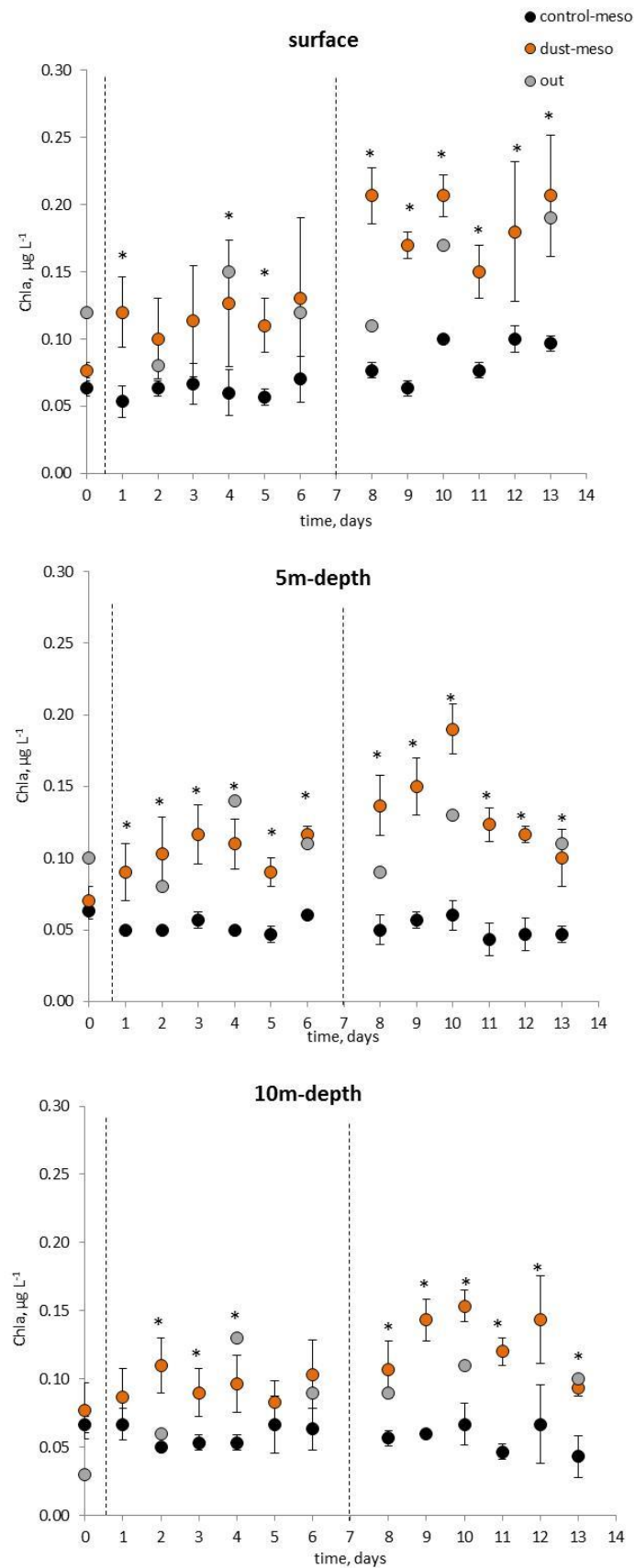Figure S8 – Primary production (PP) in mg C m^{-3} d^{-1} during the DUNE-2-R experiment in the Control-meso (black dot), Dust-meso (orange dot) and out (gray dot) at 5 m depth. The dotted line represents the time of the dust seeding. Data in the Control- and Dust-meso represent the average and standard deviation of the three replicate mesocosms. Means in the Dust-meso that were significantly different from the Control-meso ($p<0.05$) are labeled with the * symbol.