Supplementary figures

Figure S1: Evolution of MaP concentration averaged between 150- and 600-meters depth. Three features were detected using the STARS method. Each dot represents a profile and the blue, red and green ones correspond to the first, second and third feature respectively. The horizontal black line is the MaP concentration mean over the entire deployment. The blue, red and green lines are the mean concentration of each corresponding feature.
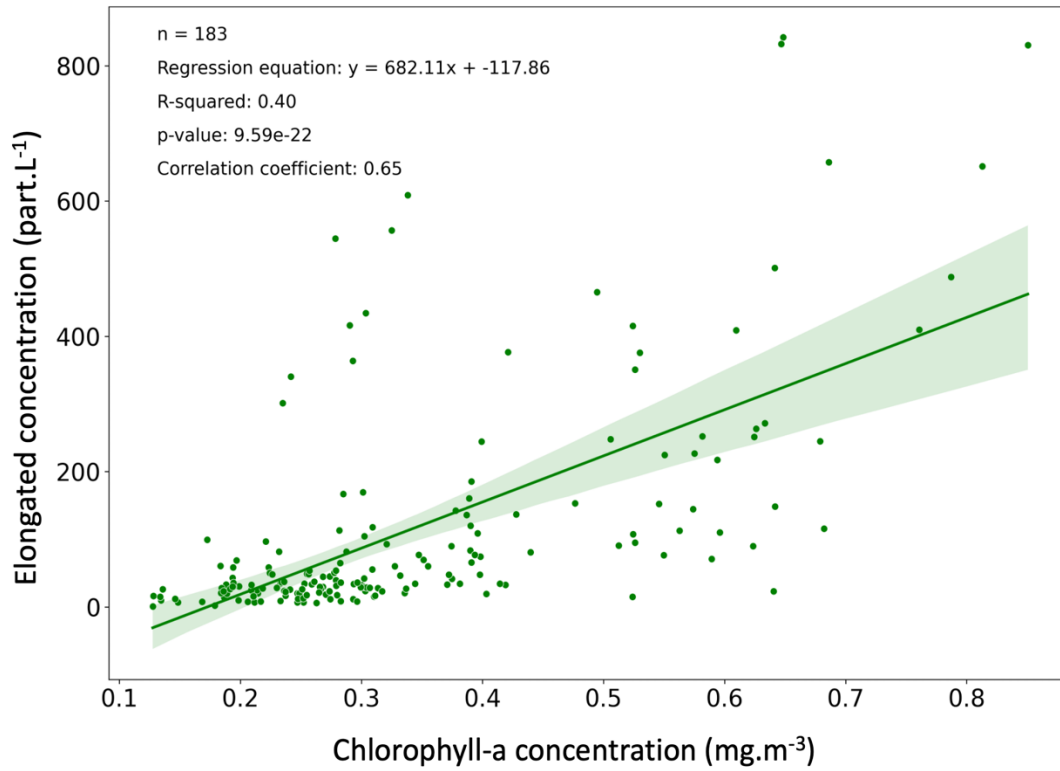
Figure S2: Spearman correlation between averaged elongated morphotype concentration and chlorophyll-a concentration in the upper 100 meters of the water column. The green dots represent the mean of each profile (n = 183). The green line represents the linear regression between both variables. The green shaded area represents the regression confidence interval (95th percentile).
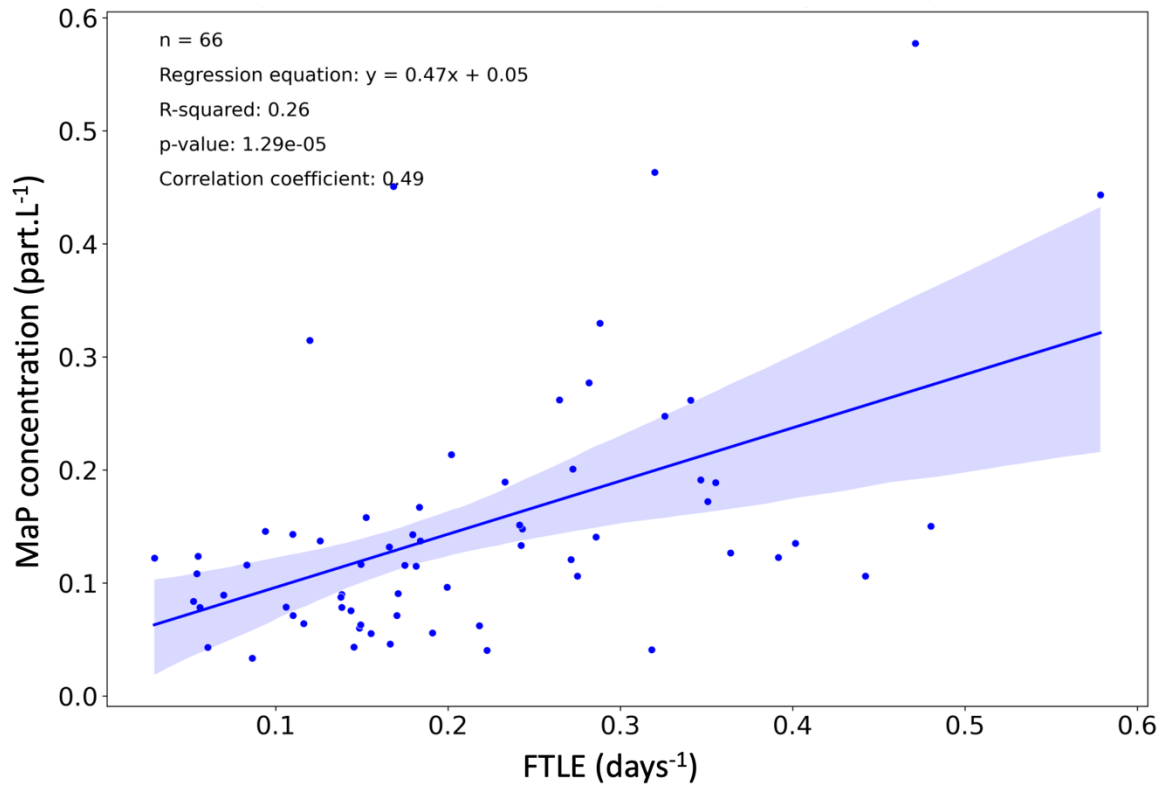
Figure S3: Spearman correlation between averaged MaP concentration and Lagrangian FTLE (5 days backward) between 100- and 1000-meters depth and during the productive period (from 05/10/2021 to 23/04/2022). The blue dots represent the mean of each profile (n = 66). The blue line represents the linear regression between both variables. The blue shaded area represents the regression confidence interval (95th percentile).

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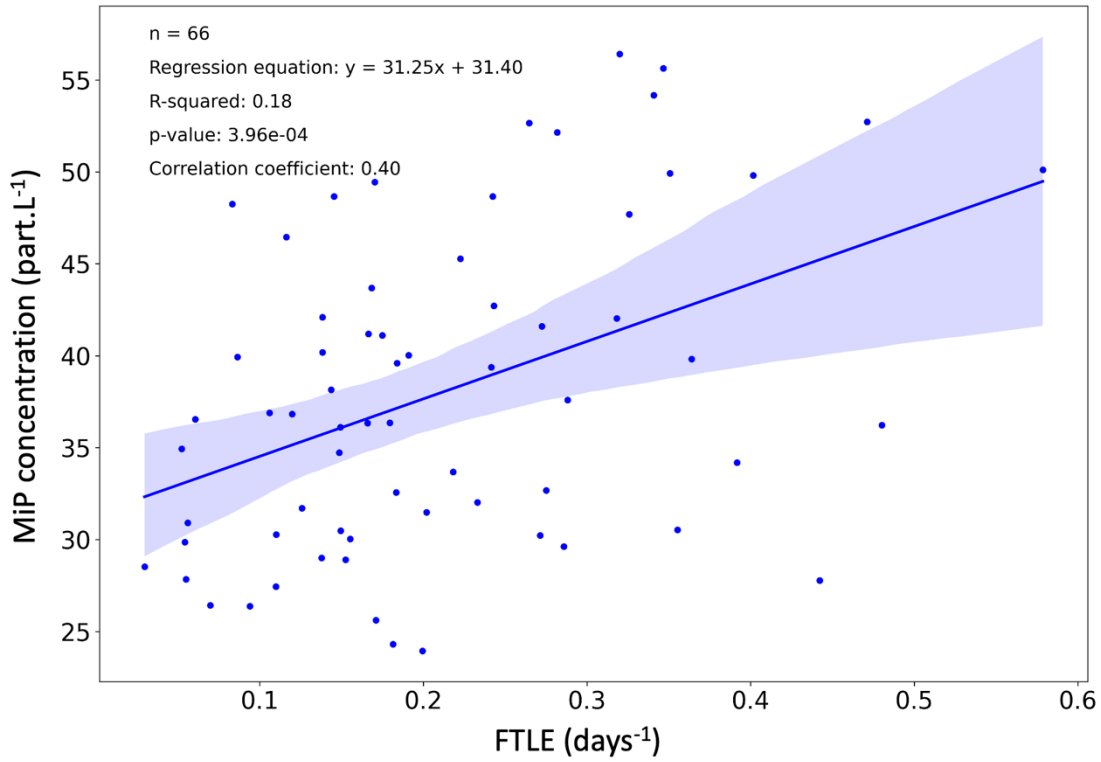
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118 **Figure S4: Spearman correlation between averaged MiP concentration and Lagrangian FTLE (5 days backward) between 100- and**
119 **1000-meters depth and during the productive period (from 05/10/2021 to 23/04/2022). The blue dots represent the mean of each**
120 **profile (n = 66). The blue line represents the linear regression between both variables. The blue shaded area represents the regression**
121 **confidence interval (95th percentile).**

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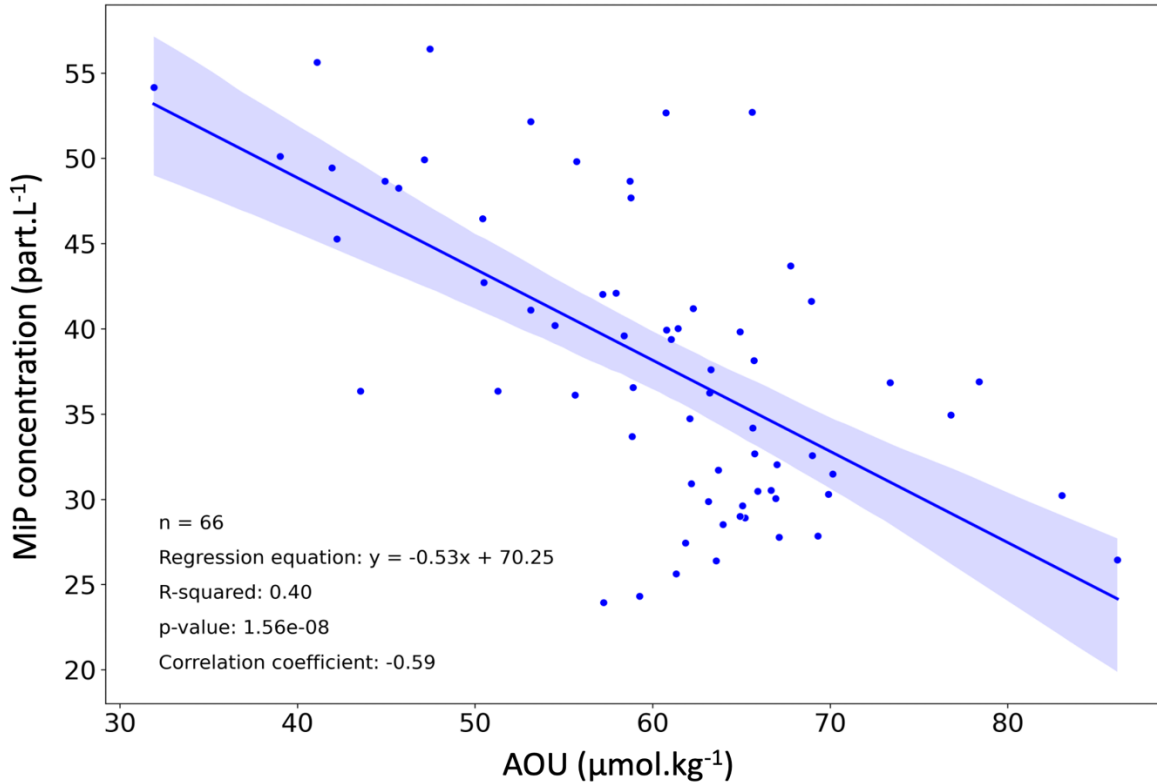
Figure S5: Spearman correlation between averaged MiP concentration and Apparent Oxygen Utilization (AOU) between 100- and 1000-meters depth and during the productive period (from 05/10/2021 to 23/04/2022). The blue dots represent the mean of each profile (n = 66). The blue line represents the linear regression between both variables. The blue shaded area represents the regression confidence interval (95th percentile).
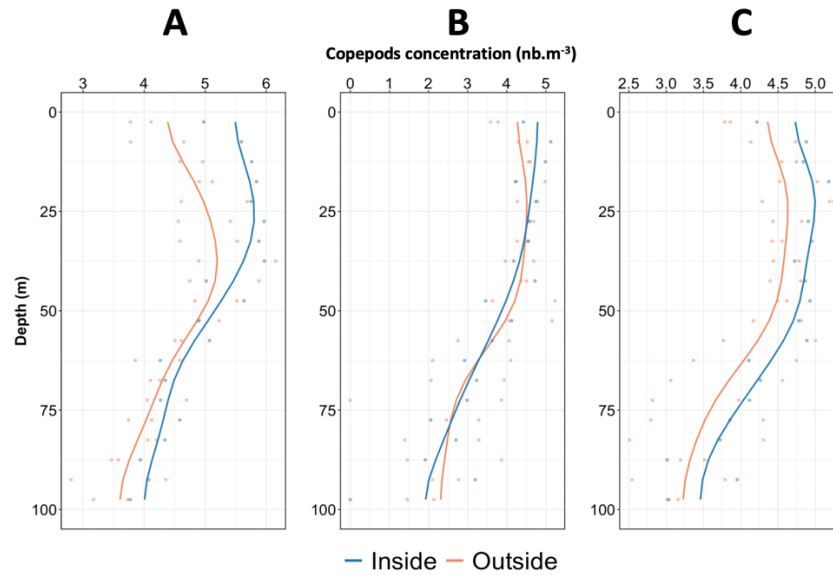
Figure S6: Comparison of Copepods concentration in the water column both outside and inside each export feature. The panels show, (A) the first export feature (01-10-2021 – 17/10/2021), (B) the second one (01-12-2021 – 19-12-2021) and (C) the last one (01/03/2022 – 28/03/2022). The dots on the graph represent the data averaged over 5-meter bins. The solid lines are a moving average of the 5-meter bins data. The orange signal corresponds to the average of profiles recorded one month prior to and after each feature (outside), while the blue signal corresponds to the average profiles recorded during each feature (inside).