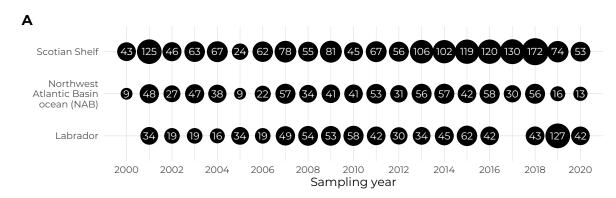
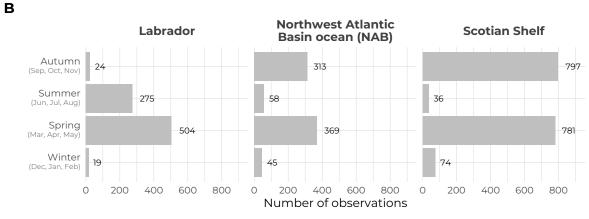


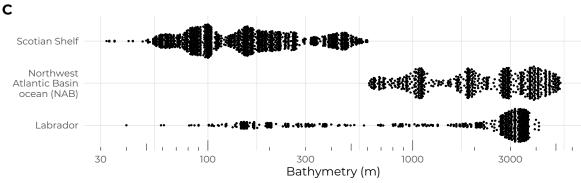
## Supplementary Material

## 1 SUPPLEMENTARY FIGURES

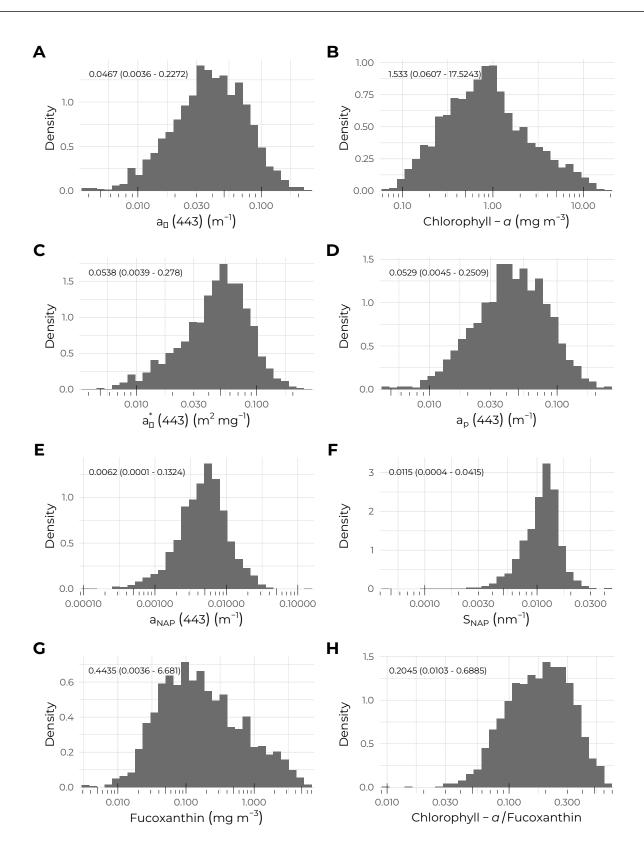
## 1.1 Figures



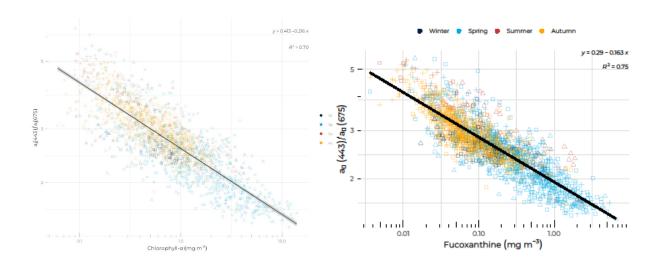




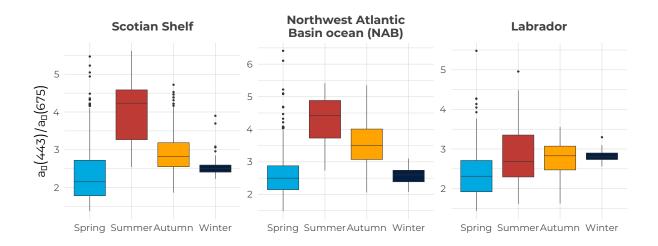
**Figure S1.** Spatio-temporal distribution of samples A) for each region and each year, B) for each region and season, and C) as a function of bathymetry



**Figure S2.** Frequency distribution of A)  $a_{\phi}(443)$ , B) [Chl-a], C)  $a_{\phi}^*(443)$ , D)  $a_p(443)$ , E)  $a_{NAP}(443)$ , F)  $S_{NAP}$ , G) [Fucox] and H) [Chl-a]:[Fucox]



**Figure S3.**  $a_{\phi}(443): a_{\phi}(675)$  as a function of A) [Chl-a] and [Fucox]



**Figure S4.** Mean and one standard deviation (i.e., boxplot) of  $a_{\phi}(443)$ :  $a_{\phi}(675)$  for the Scotian Shelf, the Northwest Atlantic and the Labrador Sea for spring, summer, autumn and winter

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