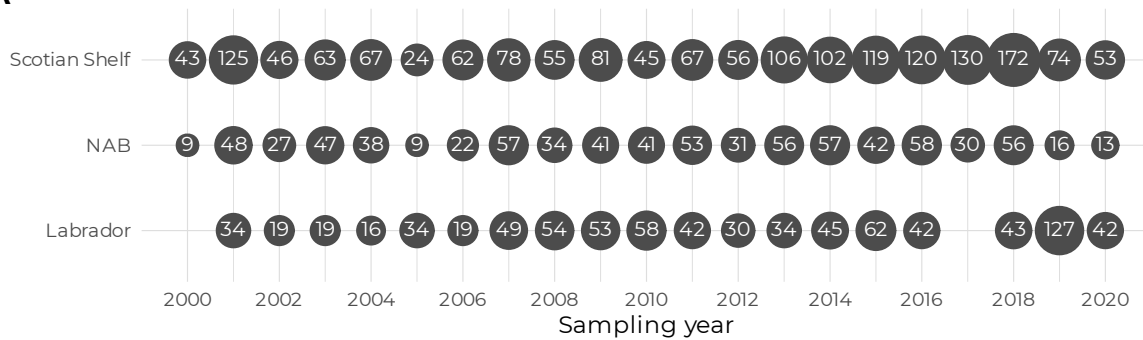


Supplementary Material

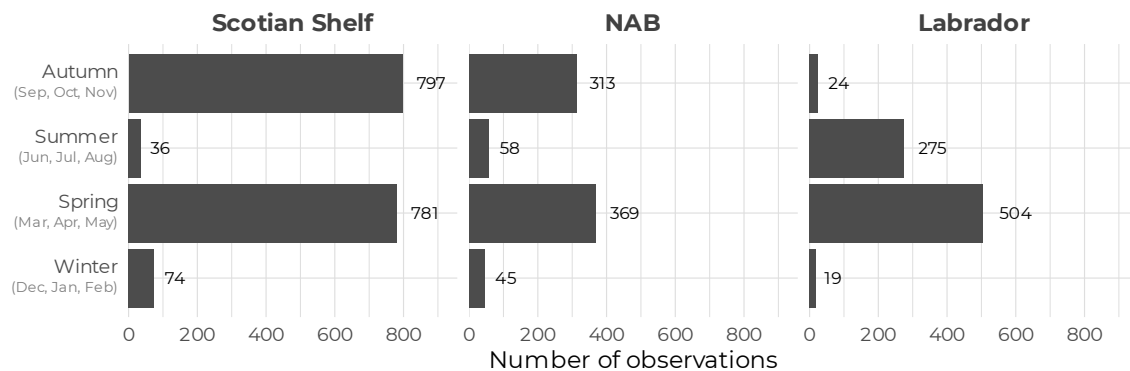
1 SUPPLEMENTARY FIGURES

1.1 Figures

A



B



C

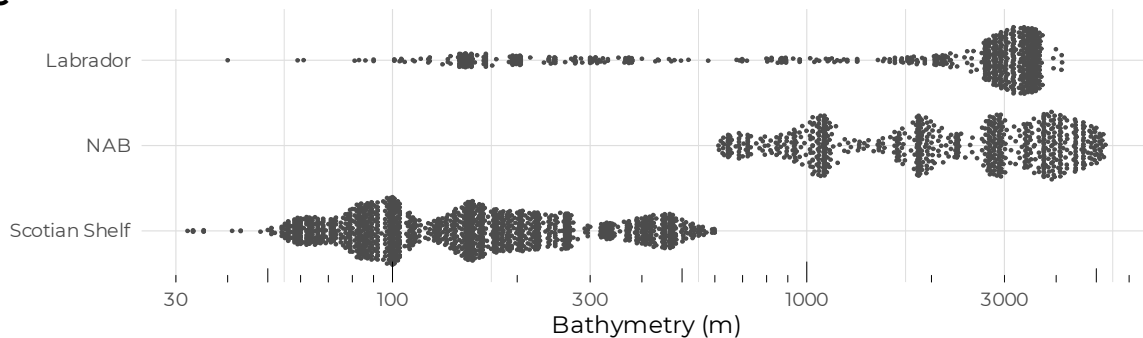


Figure S1. Spatio-temporal distribution of samples A) for each region and each year, B) for each region and season, and C) as a function of bathymetry.

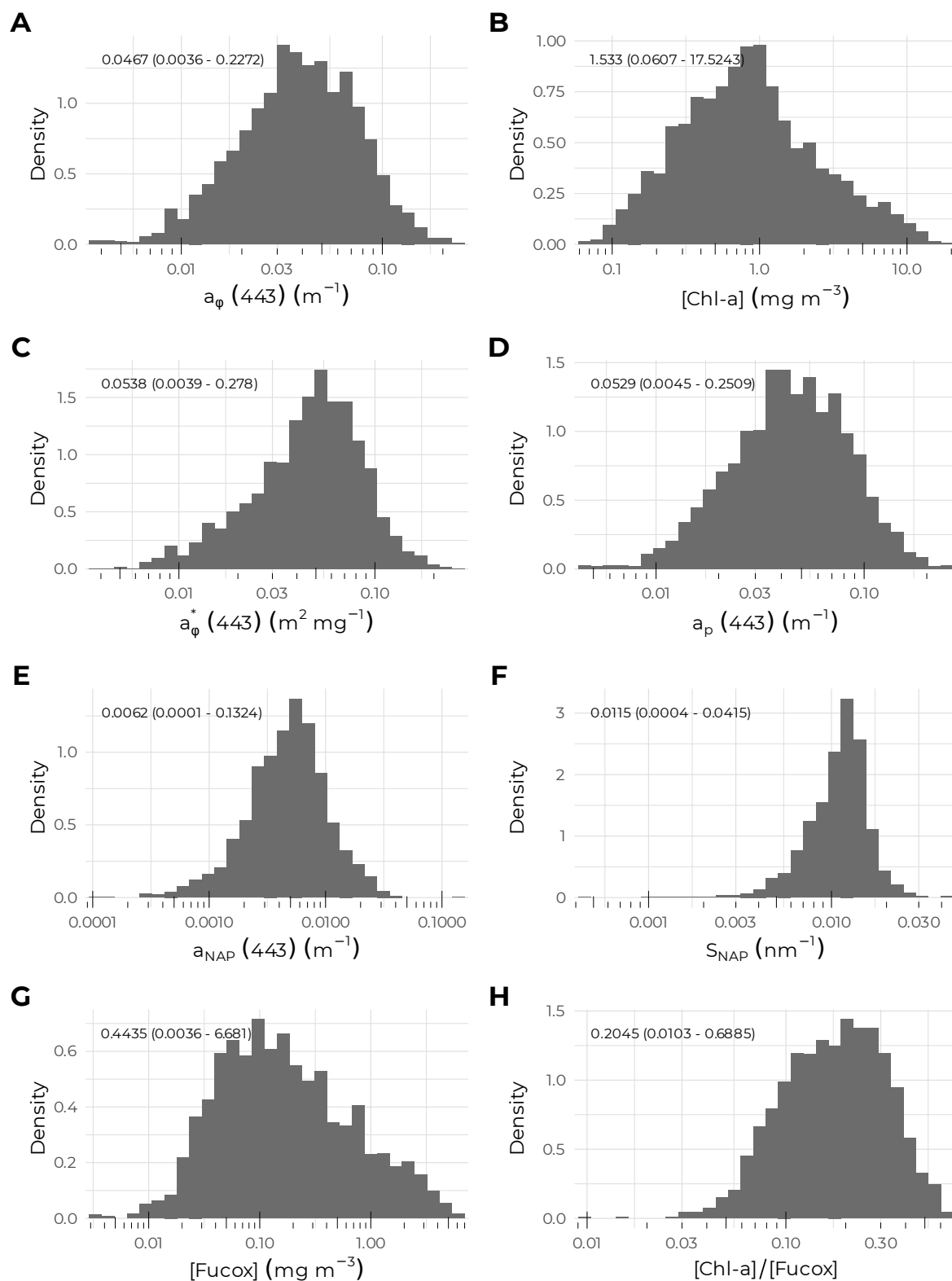


Figure S2. Frequency distribution of A) $a_{\phi}(443)$, B) $[\text{Chl-a}]$, C) $a_{\phi}^*(443)$, D) $a_p(443)$, E) $a_{NAP}(443)$, F) S_{NAP} , G) $[\text{Fucox}]$ and H) $[\text{Chl-a}]:[\text{Fucox}]$.

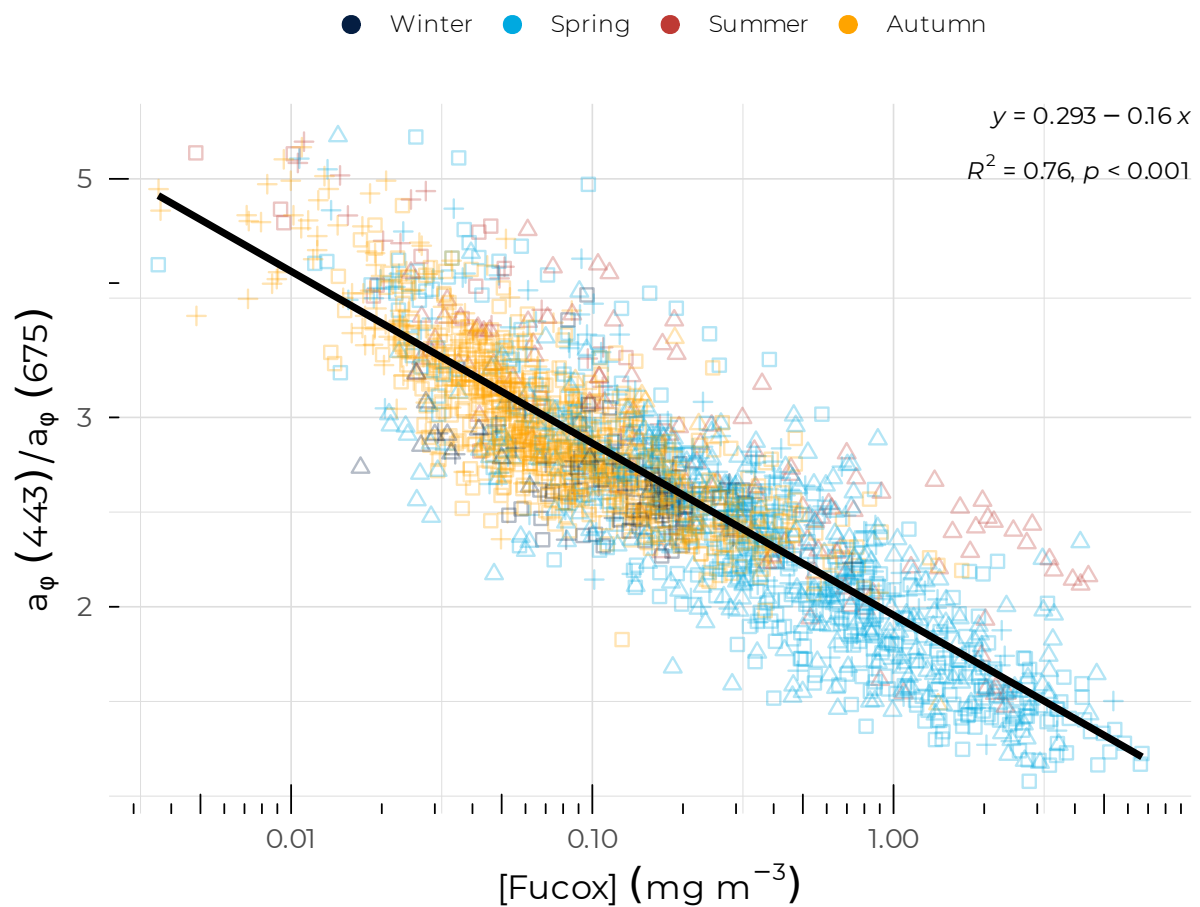


Figure S3. $a_{\phi}(443) : a_{\phi}(675)$ as a function of [Chl-a] and [Fucox].

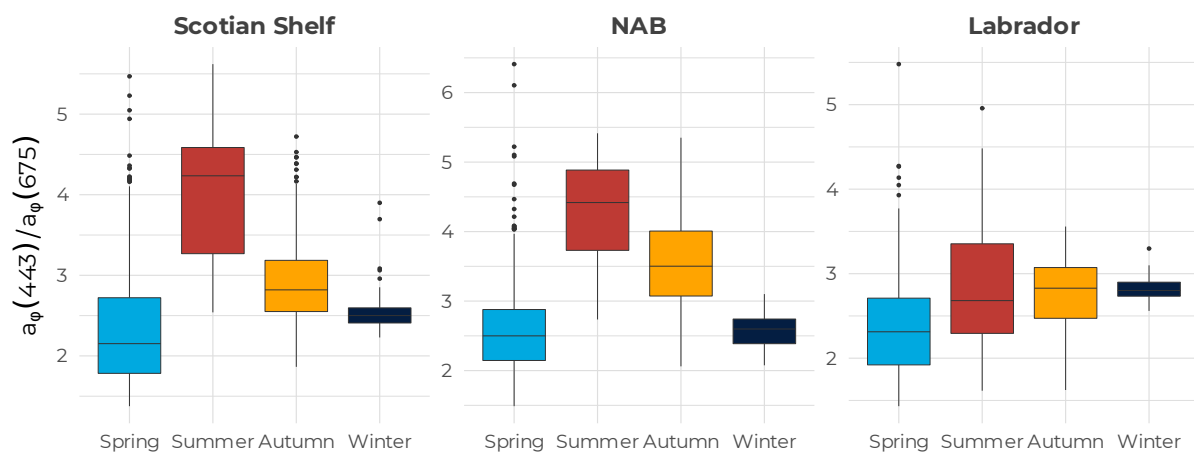


Figure S4. Mean and one standard deviation (i.e., boxplot) of $a_{\phi}(443) : a_{\phi}(675)$ for the Scotian Shelf, the NAB and the Labrador Sea for spring, summer, autumn and winter.

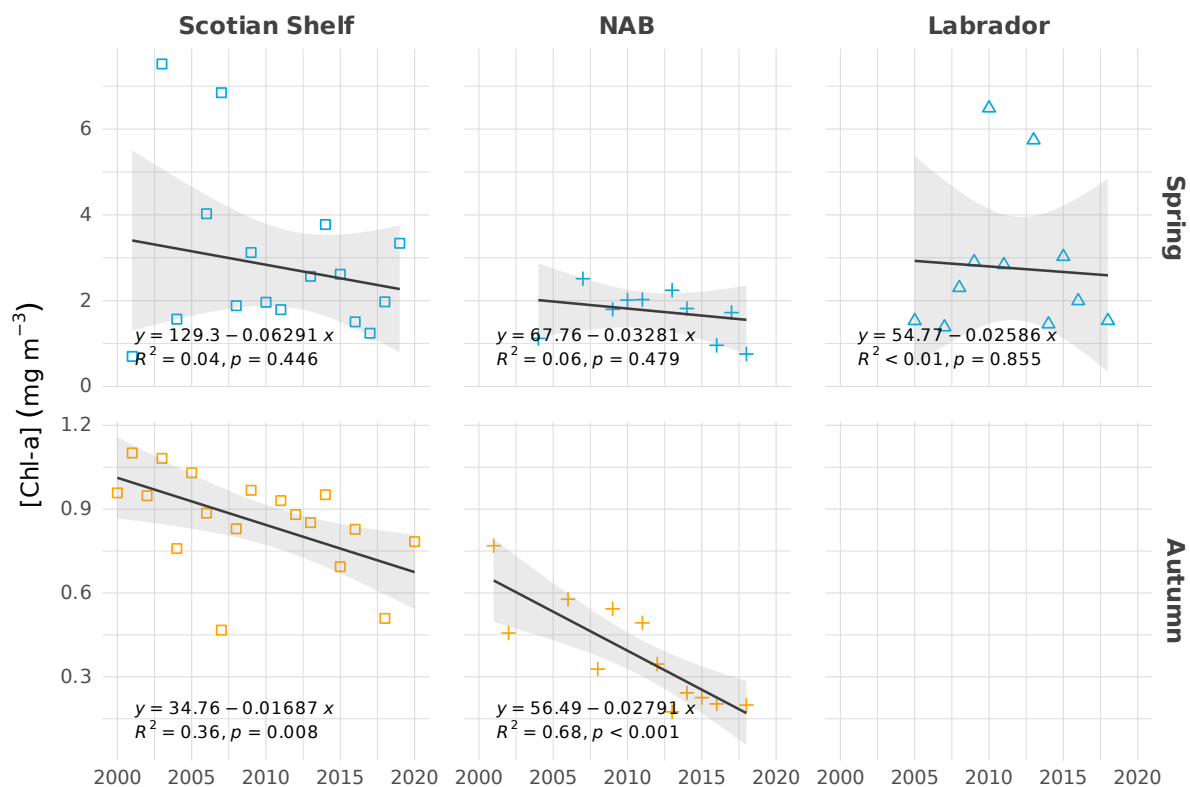


Figure S5. Times series of [Chl-a] annual mean for the Scotian Shelf in Spring (top left panel) and Autumn (bottom left panel), the North Atlantic Basin (NAB) spring (top middle panel) and Autumn (bottom middle panel), and the Labrador Sea in Spring (top right panel).

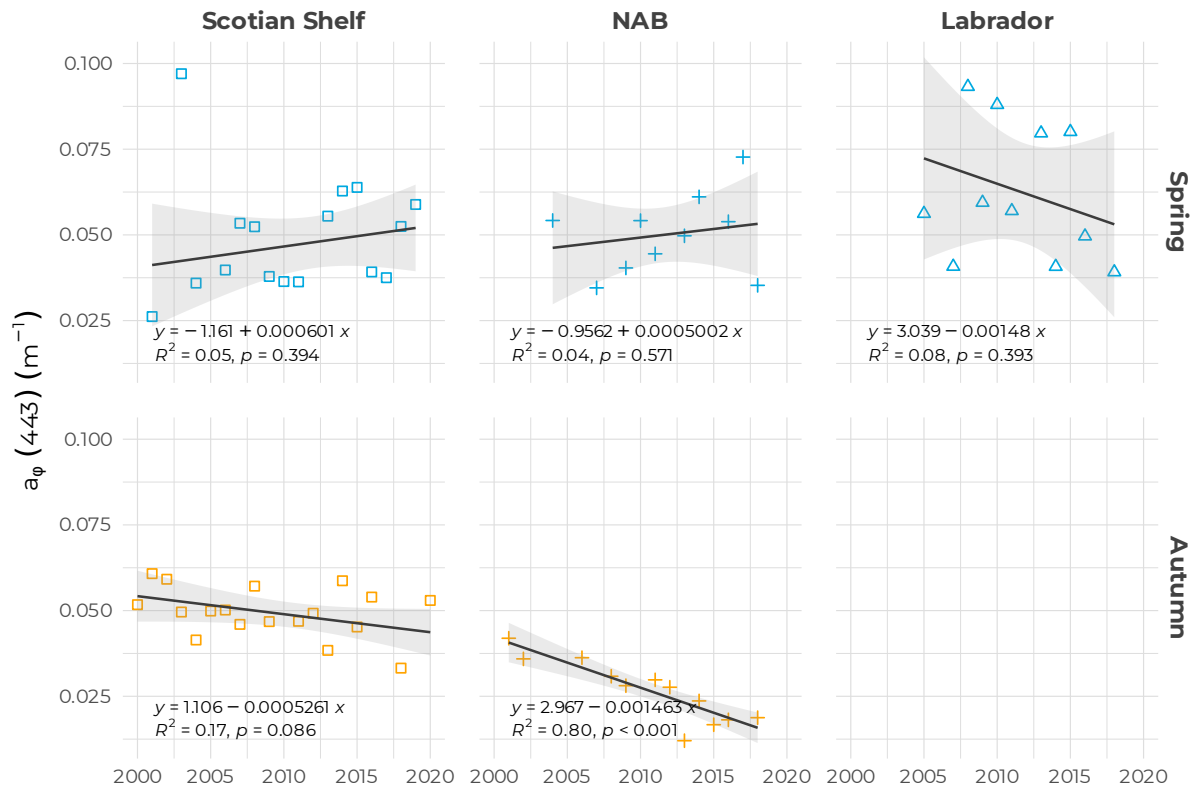


Figure S6. Times series of $a_{\phi}(443)$ annual mean for the Scotian Shelf in Spring (top left panel) and Autumn (bottom left panel), the North Atlantic Basin (NAB) spring (top middle panel) and Autumn (bottom middle panel), and the Labrador Sea in Spring (top right panel).

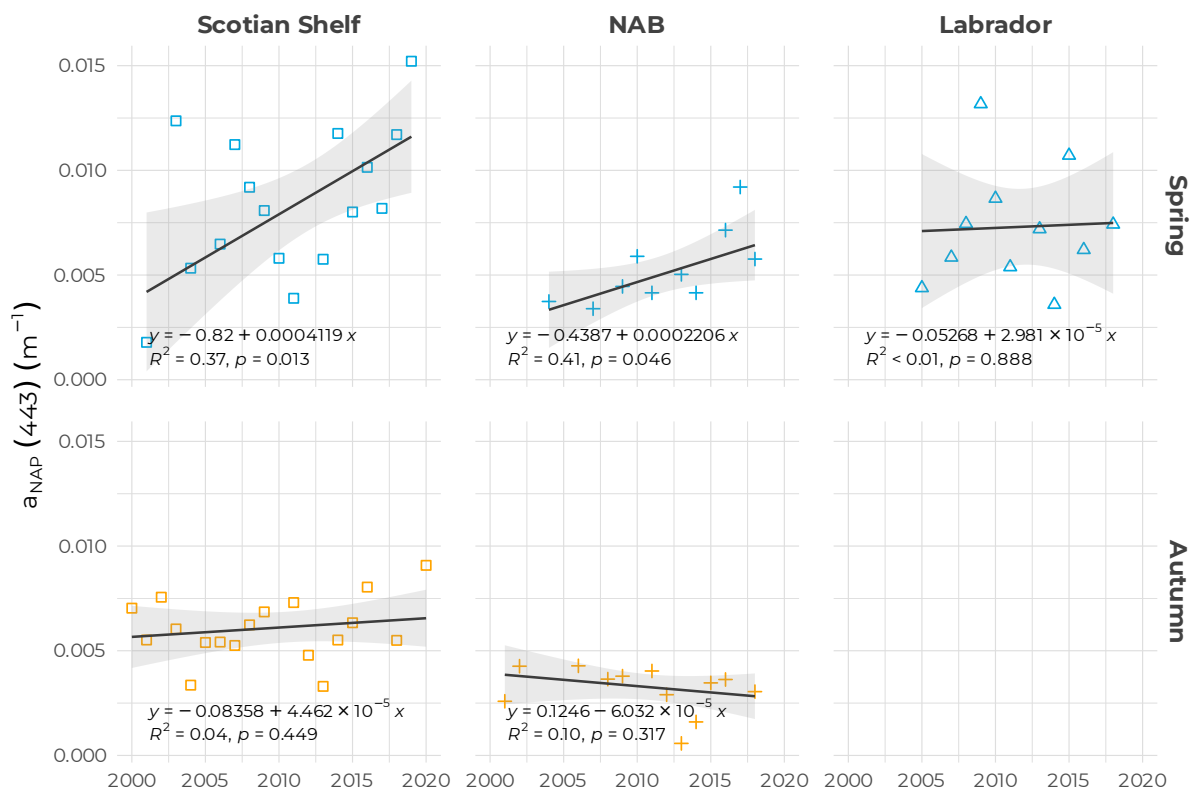


Figure S7. Times series of $a_{NAP}(443)$ annual mean for the Scotian Shelf in Spring (top left panel) and Autumn (bottom left panel), the North Atlantic Basin (NAB) spring (top middle panel) and Autumn (bottom middle panel), and the Labrador Sea in Spring (top right panel).

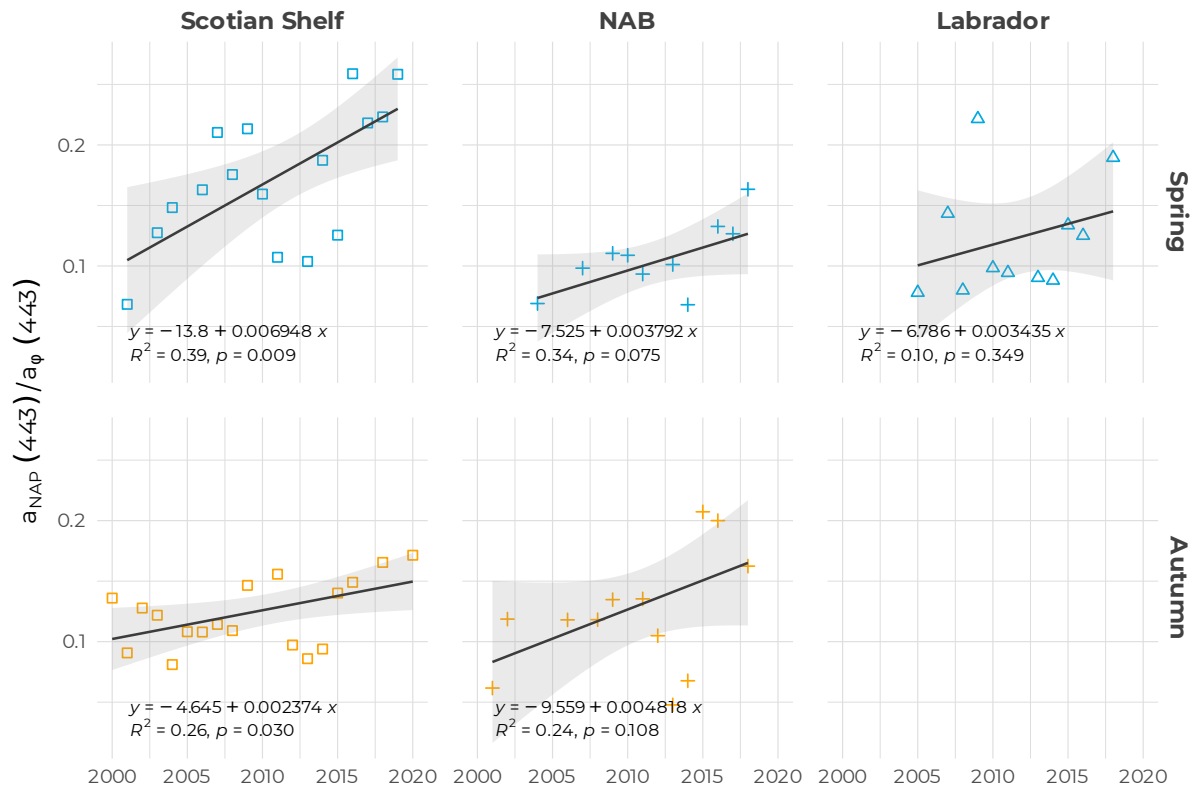


Figure S8. Times series of $a_{NAP}(443)/a_{\phi}(443)$ annual mean for the Scotian Shelf in Spring (top left panel) and Autumn (bottom left panel), the North Atlantic Basin (NAB) spring (top middle panel) and Autumn (bottom middle panel), and the Labrador Sea in Spring (top right panel)