

Figure S1: (a) Total residual from the extended Optimum MultiParameter (eOMP) analysis and individual residuals from each eOMP parameter: (b) potential temperature (θ , in $^{\circ}\text{C}$) and salinity (S); (c) silicic acid ($\text{Si}(\text{OH})_4$) and nitrate (NO_3) (both in $\mu\text{mol kg}^{-1}$); and (d) oxygen (O_2) (in $\mu\text{mol kg}^{-1}$).

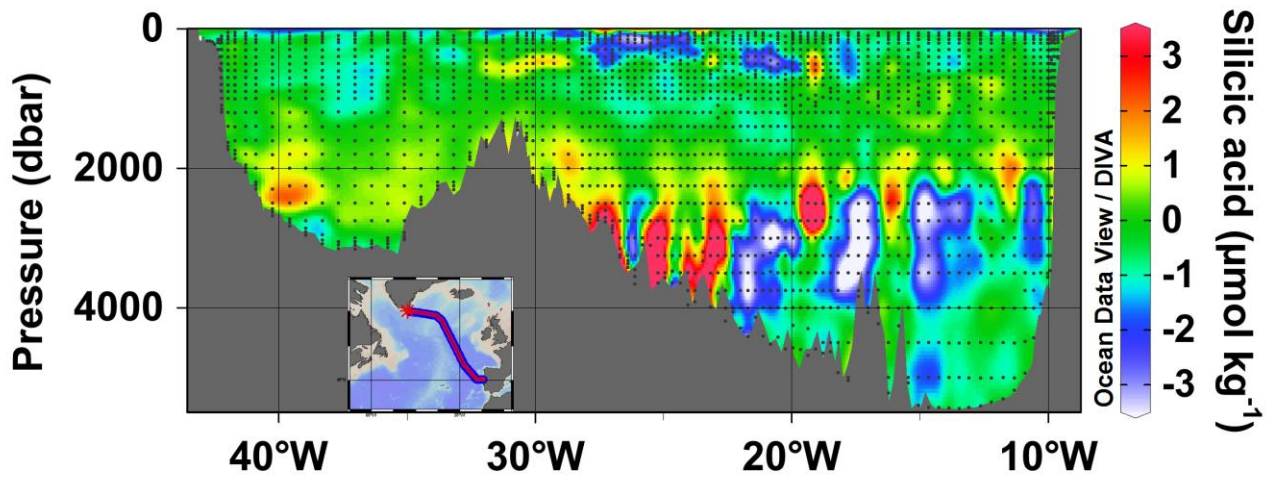


Figure S2: Differences in the silicic acid concentration (in $\mu\text{mol kg}^{-1}$) between 2014 and the average of 2002–2010, from Portugal (right) to Greenland (left). Sample locations appear as black dots. Differences were calculated by subtracting the average silicic acid values for 2002–2010 to the values measured in 2014, all gridded to the sampling locations of OVIDE 2010 (see Section 4.1 of the main text).

Table S1: Standard deviation of the water sample properties (ε in Table 1) were obtained by considering ε almost equal to the accuracy of each property.

| | Θ (°C) | S | Si(OH) ₄ ⁰ ($\mu\text{mol kg}^{-1}$) | NO ₃ ⁰ ($\mu\text{mol kg}^{-1}$) | O ₂ ⁰ ($\mu\text{mol kg}^{-1}$) |
|---------------|------------------|------|---|---|--|
| ε | 0.01 | 0.01 | 0.3 | 0.2 | 1 |