

Supporting Information for ”A detailed view on the seasonality of stable carbon isotopes across the North Atlantic”

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Contents of this file

Additional Supporting Information (Files uploaded separately)

1. Data Set S1: Figure 2
2. Data Set S2: Figure 3
3. Data Set S3: Figure 4

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4. Data Set S4: Figure 5

Introduction

This supporting information contains the data used in Plot 2 to 5. The data was collected between 2012 and 2014 on the voluntary observing ship sailing between Liverpool, UK and Halifax, CA. A description of the data reduction procedure and the division of the data into 10 longitudinal bands from 5 to 55°W can be found in the methods section.

Data Set S1: Figure 2

This data set contains band averages of SST, SSS, $f\text{CO}_2$, $\delta^{13}\text{C}(\text{CO}_2)$ and their standard variations.

Data Set S2: Figure 3

This dataset contains the temperature-driven and non-temperature-driven components of $f\text{CO}_2$, $\delta^{13}\text{C}(\text{CO}_2)$ as well as of the DIC, the DIC predicted by the $\delta^{13}\text{C}(\text{DIC})$ seasonality (DIC_{pred}) and $\delta^{13}\text{C}(\text{DIC})$, as calculated from the band means of SST, $f\text{CO}_2$ and $\delta^{13}\text{C}(\text{CO}_2)$.

Data Set S3: Figure 4

This dataset contains the seasonal variation of the air-sea disequilibria in partial pressure and isotope signature, the estimated air-sea gas exchange fluxes of total CO_2 and $^{13}\text{CO}_2$ and the stable carbon isotope signature of this flux.

Data Set S4: Figure 5

This dataset contains the annual air-sea flux and its stable carbon isotope composition for each band.