

Supplementary material to *Interannual variability in the summer dissolved organic matter inventory of the North Sea* by Chaichana et al.

1. Synthesis of river and open ocean DOC/N end members applicable to the North Sea.

Table S1. Summary of riverine DOM concentrations and stoichiometry for North Sea and Baltic sources. References: 1. Harrison et al 2005; 2. Neal and Robson (2000); 3. Markager et al (2011); 4. Berman and Bronk, (2003). C:N values are calculated from DOC/DON concentrations unless quoted directly by the cited study.

Location	DOC (μM)	DON (μM)	C:N ratio	Reference
Danube	458	43	11	1
Elbe	333	65	5	1
Rhine	450			1
Scheldt	658			1
Seine	308	36	8.6	1
Wear	360			2
Derwent	347			2
Trent	502			2
Ouse	476			2
Thames	369			2
Horsen's Fjord (Baltic)	591	84	11	3
Baltic rivers		30		4
Summary				
mean	440	52	8.8	
min	308	30	5.1	
max	658	84	11	

Table S2. Summary of North Atlantic DOM concentrations and stoichiometry. C:N values are calculated from DOC/DON concentrations unless quoted directly by the cited study.

Location	DOC / M	DON / M	C:N ratio	Reference
Bay of Biscay (offshore)				Aminot and Kerouel (2004)
0-200m	61	4.4	14	
200-600m	52	3.7	14	
800-1500m	46	3.1	15	
3000-4000m	42	2.7	16	
Mid Atlantic (60 to 35 North)				Kahler and Koeve (2001)
Surface	60	6	10	
>1000m (35 North)	44	6.6	6.7	
Faroe-Shetland Channel				Kramer et al., (2005)
0 - 400m	61	7.5	8.9	
400 – 800m	55.3	8.9	5.9	
>800 m	53	7.7	9.1	
North Atlantic (Greenland to Portugal)				Alvarez-Salgado et al (2013)
Surface waters	54	4.5	13	
Deep waters	45	3.2	15	
Summary				
Intermediate				
mean	58	5.6	11	
min	52	3.7	5.9	
max	61	8.9	14	
Deep				
mean	44	5.3	12	
min	42	2.7	6.7	
max	53	7.7	16	

2. Additional figures

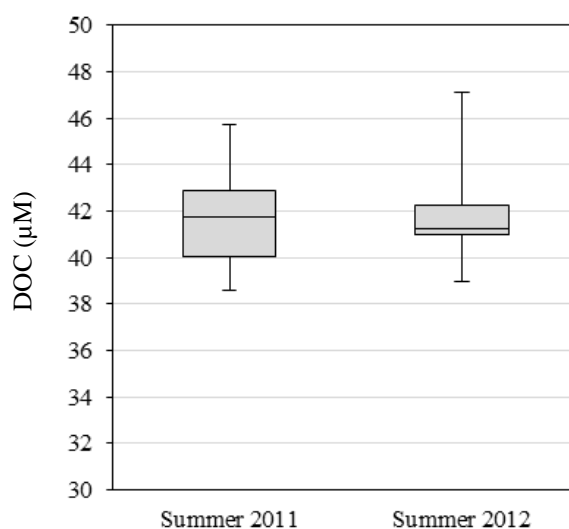


Figure S1. Box-whisker plot of DOC concentrations (μM) for deep seawater reference water (DSR) between the analyses for summer 2011 and summer 2012 samples. In each data set, the box indicates the lower (Q1, 25%) to the upper (Q3, 75%) quartile and the median (the horizontal line within the box). The lowest and highest data points indicate by the whiskers.

References

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