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Transformation of organic matter in a Barents Sea sediment profile: coupled geochemical and microbiological processes

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Supplementary information Figures S1-S7

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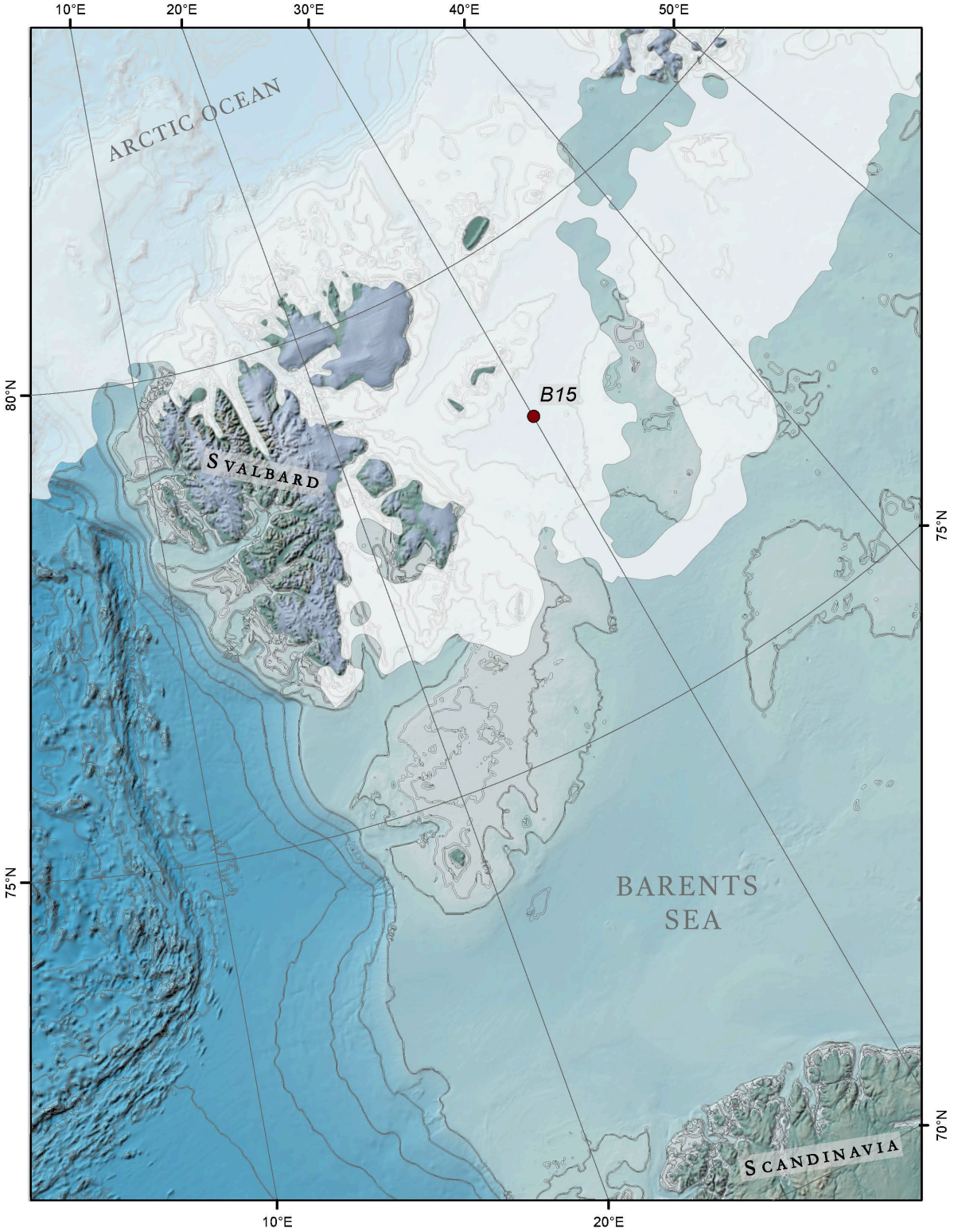

Supplementary Figure S1: Map of the Barents Sea with the location of station B15 (78.25°N 30.01°E) and sea ice cover present during sampling (19/07/2017) (Fetterer et al., 2017).

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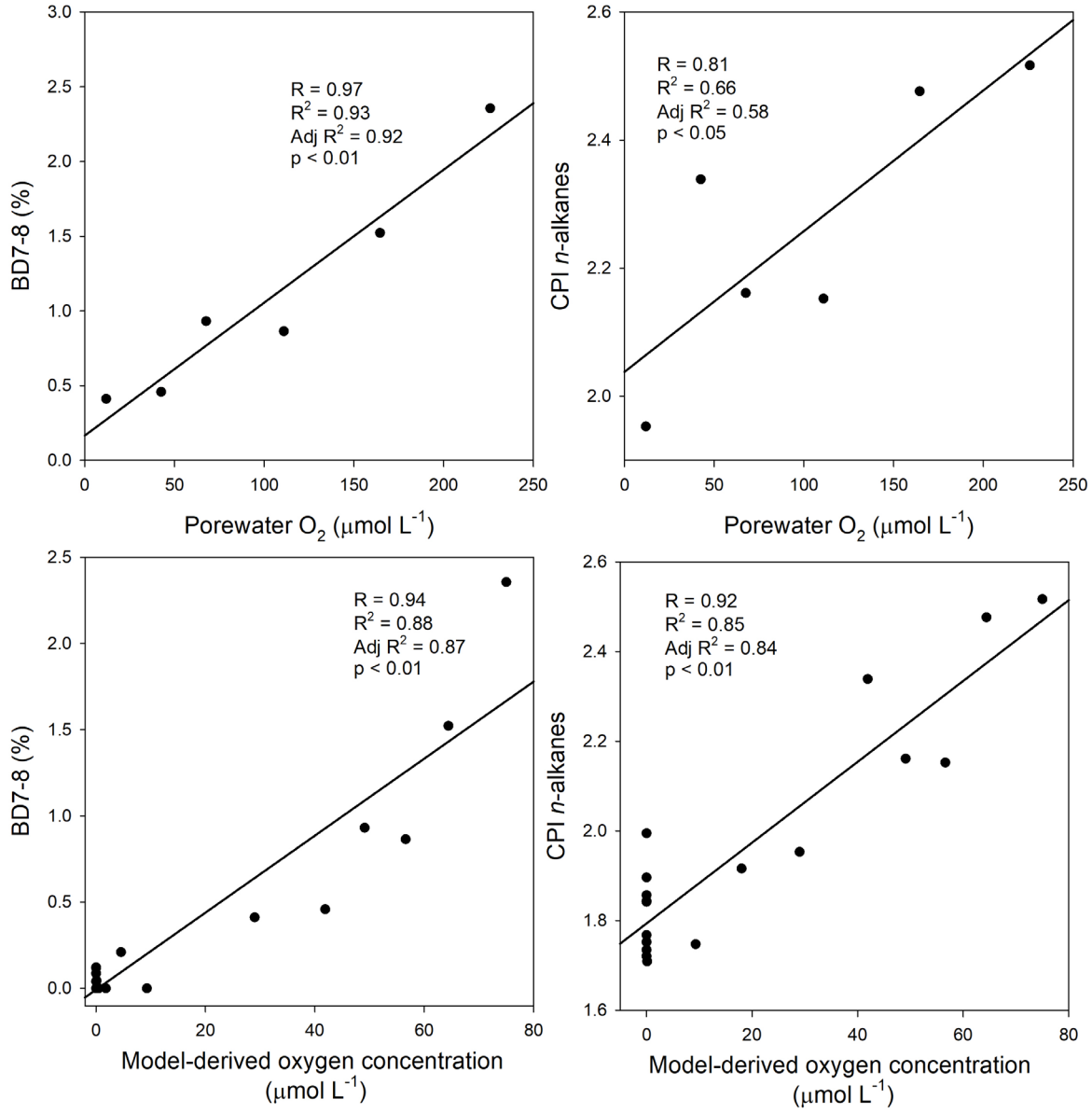

Supplementary Figure S2: Correlation of geomicrobial and organic geochemical parameters indicative of processes at the oxic interface. Measured porewater O_2 and model-derived oxygen concentration versus BD7-8 group and CPI *n*-alkanes.

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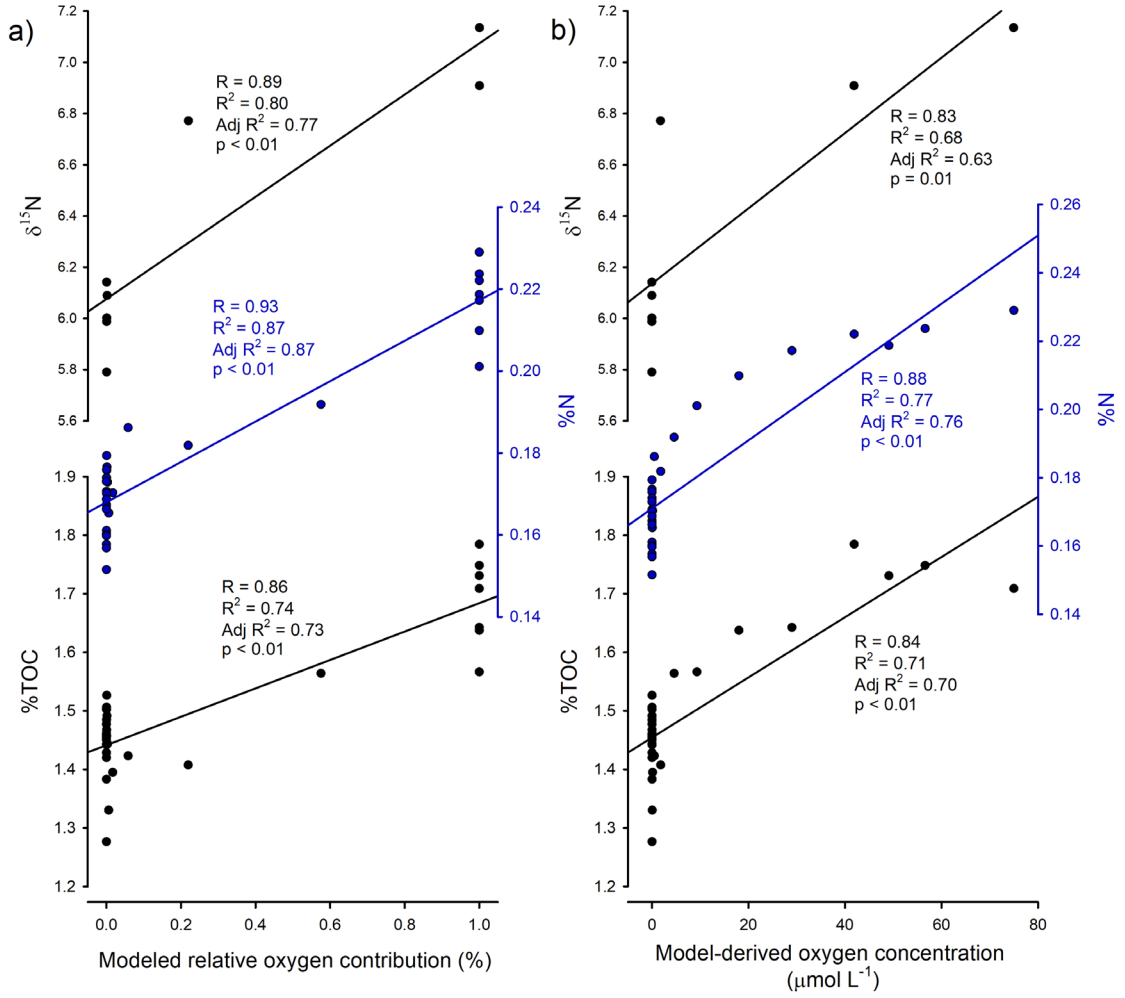
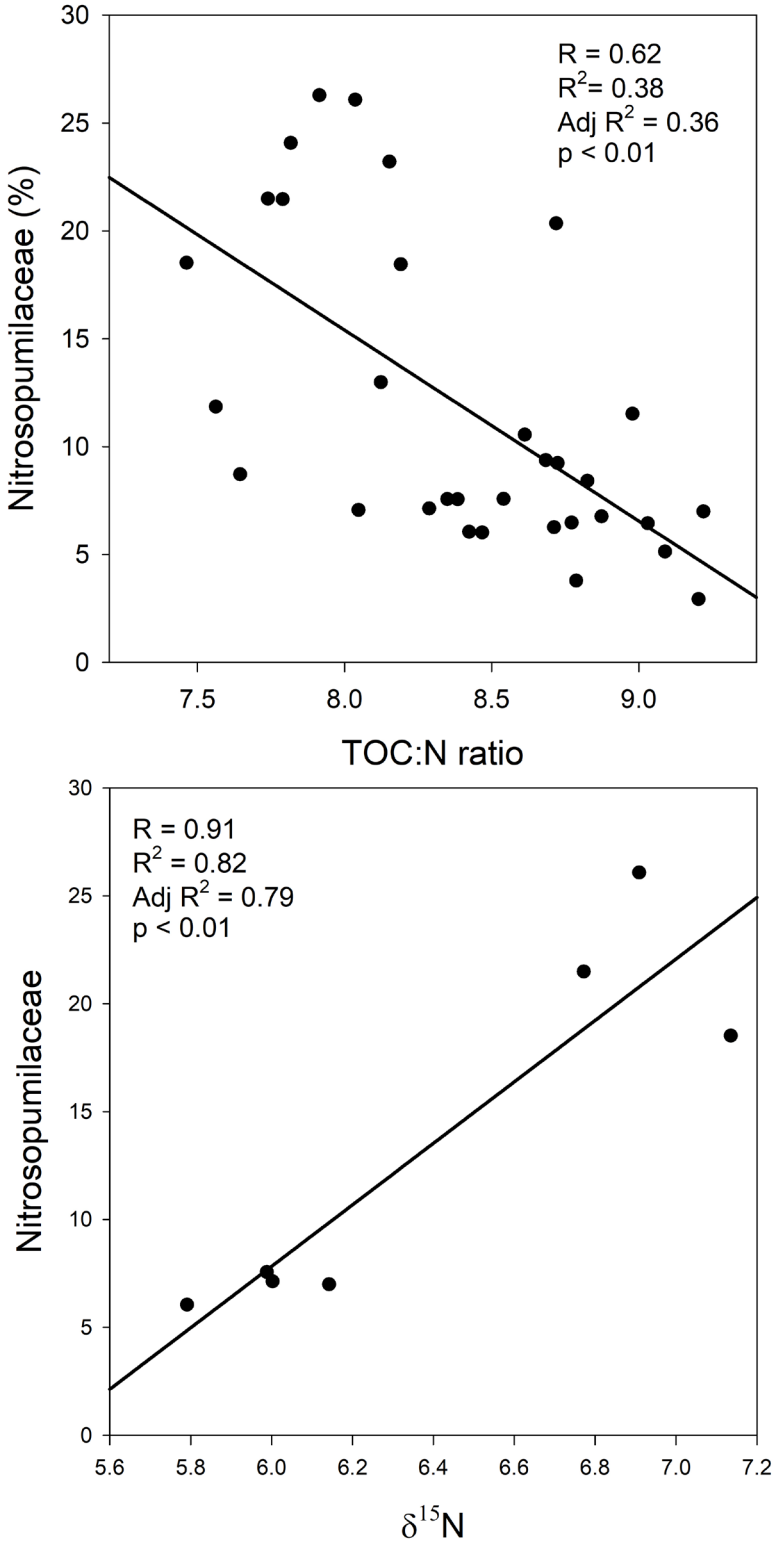
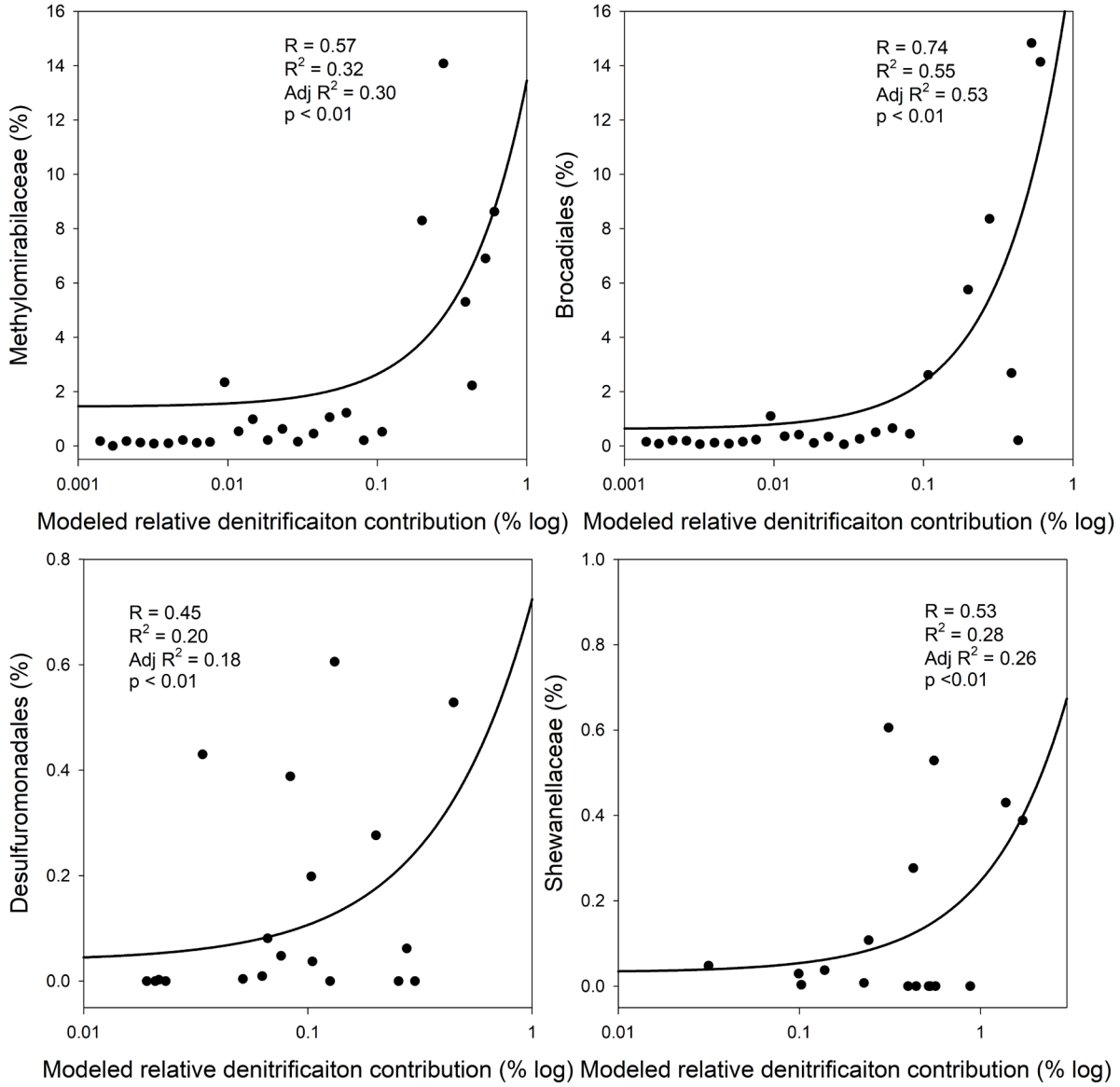


Supplementary Figure S3: Correlation of bulk geochemical parameters indicative of processes at the oxic interface. a) Modelled relative oxygen contribution versus $\delta^{15}N$, N & TOC; b) Modelled derived oxygen concentration versus $\delta^{15}N$, N & TOC.



Supplementary Figure S4: Correlation of bulk geochemical variables with bacteria capable of nitrite production from ammonia. $\delta^{15}N$ and C_{org}:N ratio versus *Nitrosopumilaceae*.



Supplementary Figure S5: Correlation of microbial parameters with processes indicative of denitrification. *Methylomirabilaceae, Brocadiales, Desulfuromondales and Shewanellaceae* versus modelled denitrification contribution.

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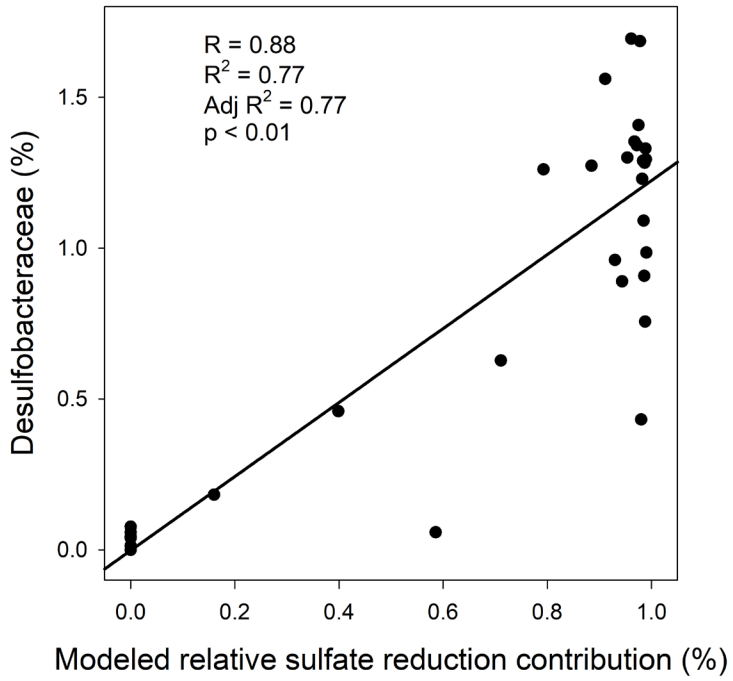

Supplementary Figure S6: Correlation of *Desulfobacteraceae* versus modelled relative sulfate reduction contribution.

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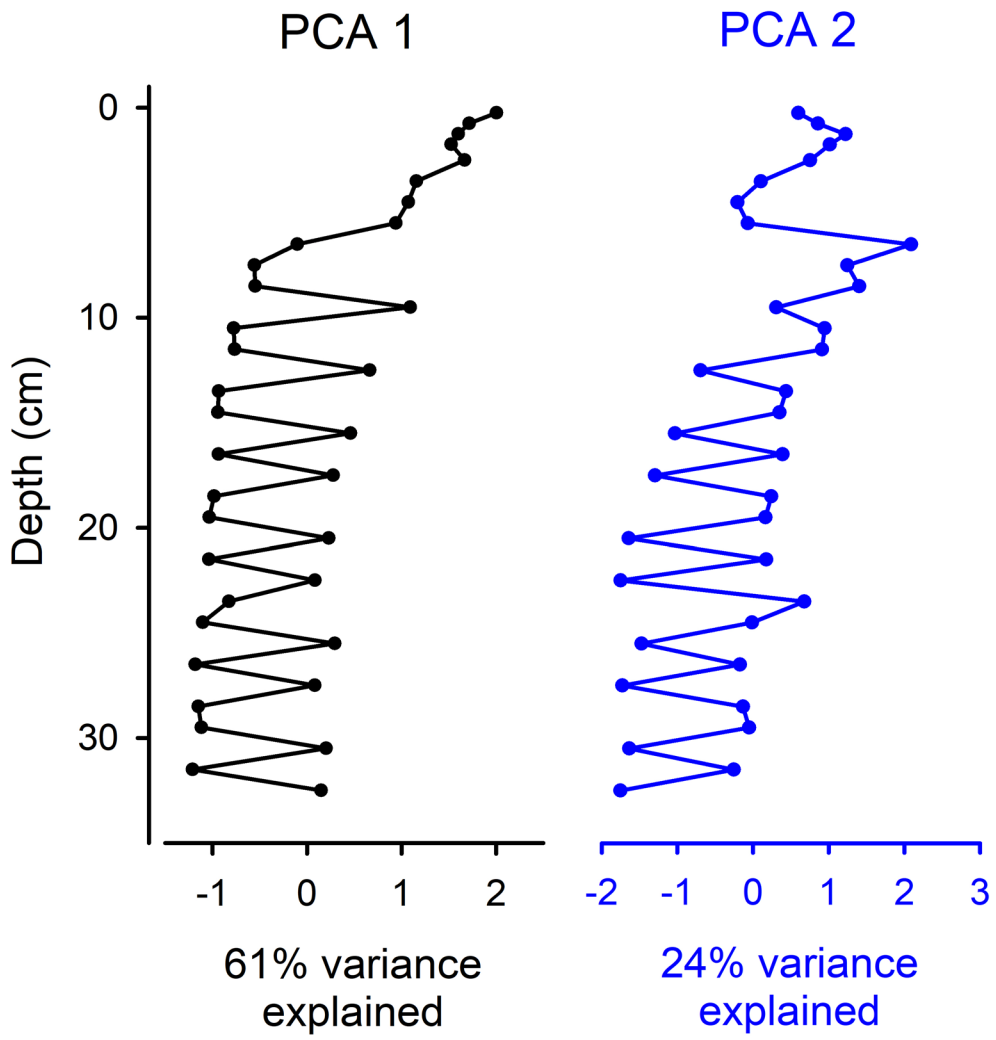

Supplementary Figure S7: Principal components analysis (PCA) axis 1 and 2 scores plotted against depth to show changes in variance down the core.

Reference

Fetterer, F., K. Knowles, W. N. Meier, M. Savoie, and A. K. Windnagel. 2017, updated daily. Sea Ice Index, Version 3. Boulder, Colorado USA. NSIDC: National Snow and Ice Data Center. doi: https://doi.org/10.7265/N5K072F8