

Supplementary materials

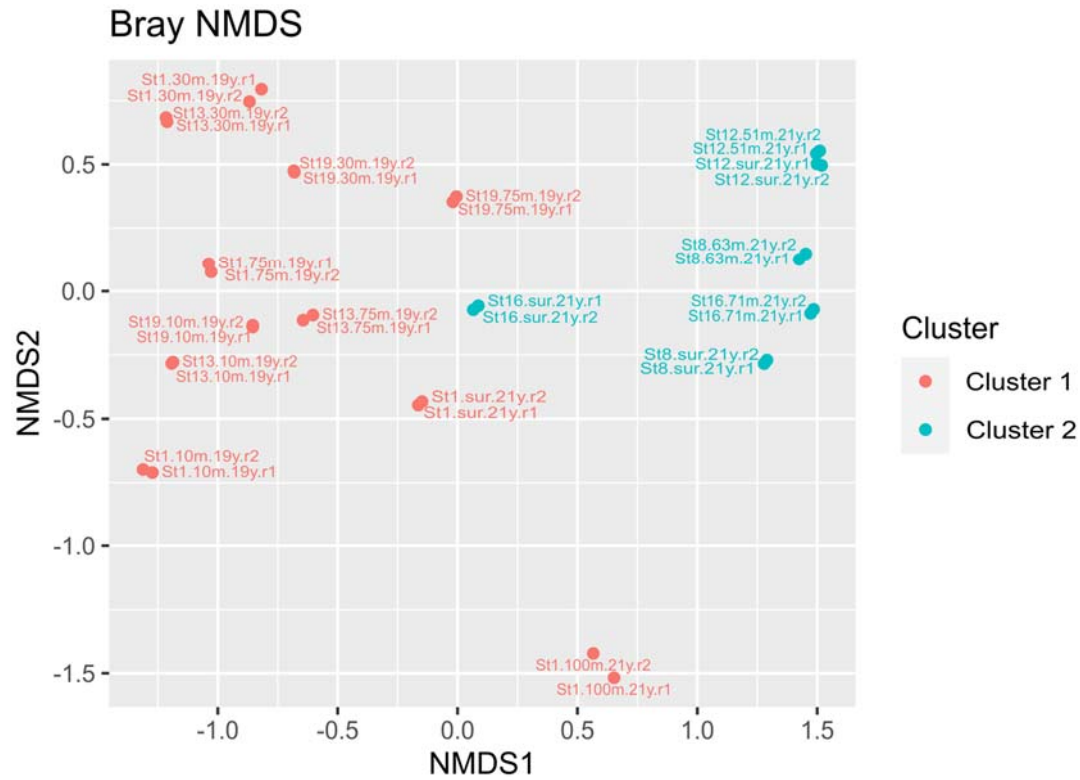


Figure S1. Nonmetric multidimensional scaling (NMDS) ordination of variation based on weighted Bray-Curtis dissimilarity for comparing technical replicates

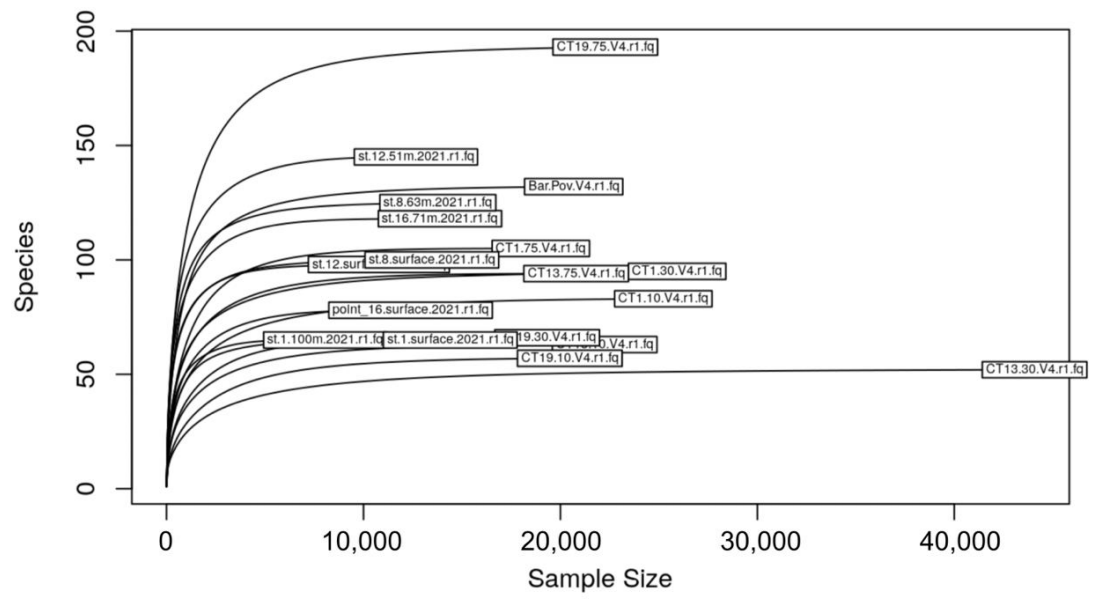


Figure S2. Rarefaction curves of the Barents Sea samples.

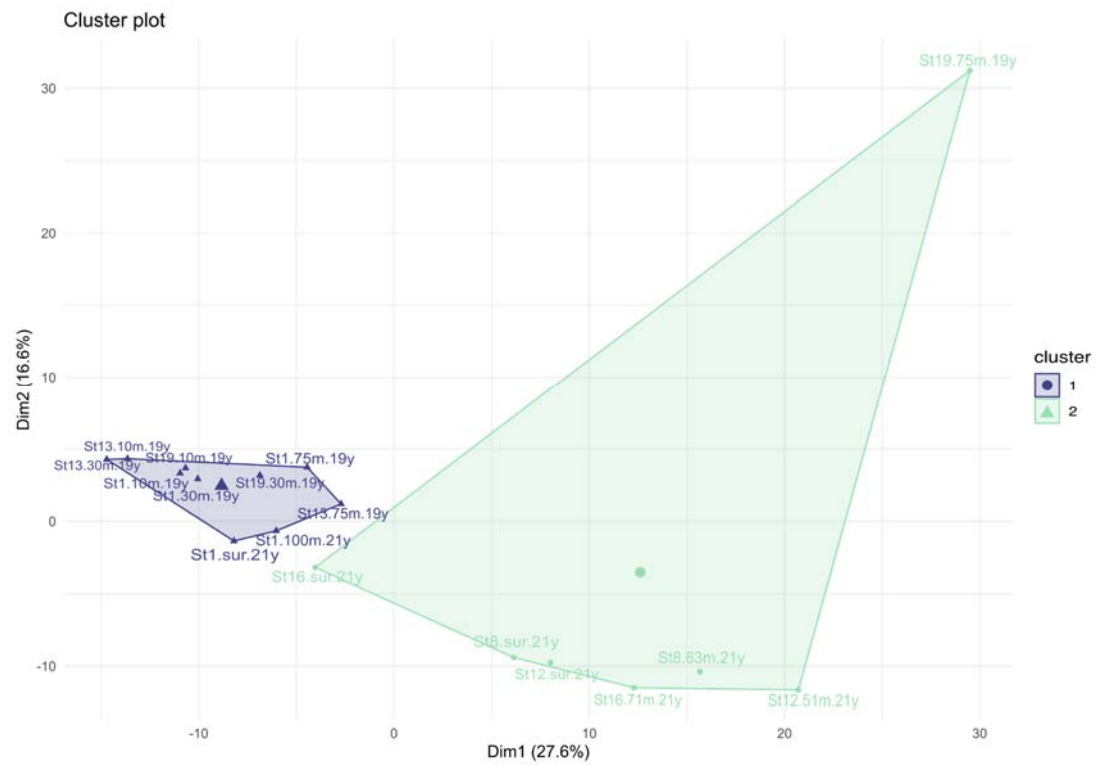


Figure S3. PCA ordination of samples based on the Euclidean distances between data points. Analysis showed that x-axis (Dim1, equals to PC=principal component), accounts for 27.6% of the total variation, while the y-axis (Dim2) accounts for 16.6% of the variation.

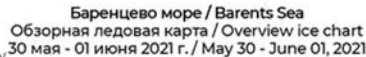


Figure S4. Overview ice chart of the Barents Sea 2 weeks before 2021 sampling. The yellow line shows a section between Novaya Zemlya and Franz Josef Land.

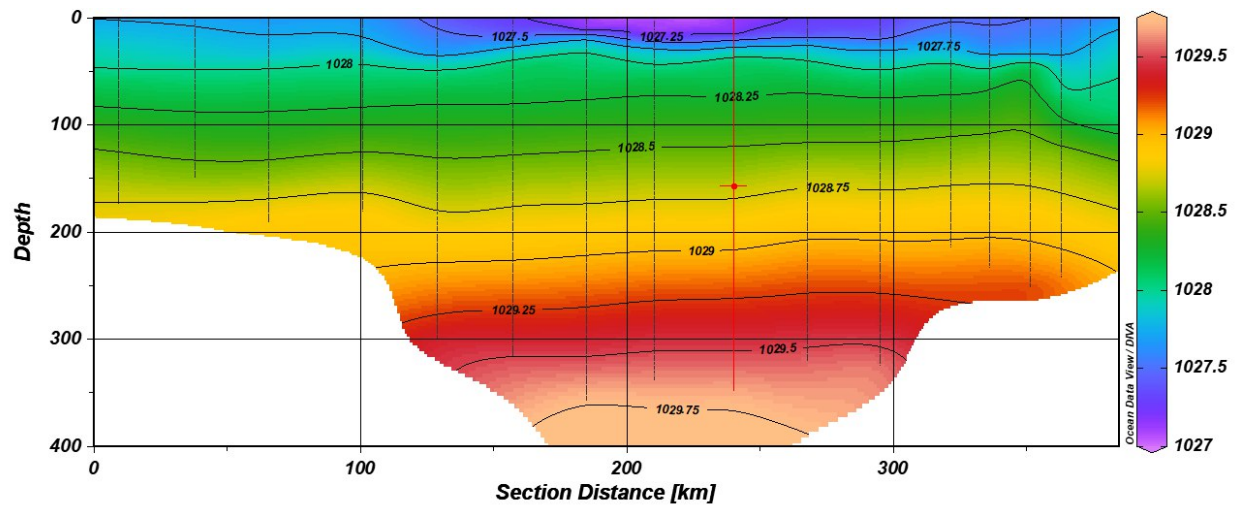


Figure S5. The density profile of the section between Novaya Zemlya and Franz Josef Land.

Table S1. Clusterization of samples

	Shannon	Simpson	InvSimpson	Fisher	PD (Feit)	Flow
St1.10m.19y	1.679	0.562	2.284	10.686	15.229	Cluster 1
St1.30m.19y	2.525	0.845	6.440	12.429	14.875	Cluster 1
St1.75m.19y	2.714	0.878	8.193	14.646	21.515	Cluster 1
St13.10m.19y	1.864	0.740	3.850	7.936	12.168	Cluster 1
St13.30m.19y	1.876	0.794	4.852	5.822	11.684	Cluster 1
St13.75m.19y	2.133	0.742	3.871	12.700	17.082	Cluster 1
St19.10m.19y	1.795	0.753	4.051	7.162	10.639	Cluster 1
St19.30m.19y	2.010	0.763	4.217	8.544	13.418	Cluster 1
St19.75m.19y	2.811	0.748	3.968	29.050	31.864	Cluster 1
St1.sur.21y	2.367	0.804	5.105	8.780	11.713	Cluster 1
St1.100m.21y	2.528	0.831	5.906	9.662	14.766	Cluster 1
St16.sur.21y	1.981	0.669	3.020	11.115	19.015	Cluster 2
St16.71m.21y	3.389	0.928	13.878	17.702	20.270	Cluster 2
St12.sur.21y	3.241	0.920	12.572	14.877	16.873	Cluster 2
St12.51m.21y	3.456	0.924	13.164	22.963	27.396	Cluster 2
St8.sur.21y	3.063	0.880	8.357	14.652	16.648	Cluster 2
St8.63m.21y	3.508	0.944	17.809	18.971	23.389	Cluster 2