

Supplementary Table S3. Loadings of the first (PC1) and second (PC2) principal components of the PCA for each type of series. The highest positive and negative loadings for each component are marked with red and blue shading, respectively. Numbers and accronims for series as in Supplementary Tables S1 and S2. The percent contribution to total variance for each component (% var) is also indicated.

series	series no.	variable	PC 1	PC 2
climate	2	NAO_DM	0.245	0.164
	3	NAO_JA	0.334	0.280
	4	AMOm	-0.490	0.285
	5	GLOTLm	-0.392	0.583
	6	PDOm	0.295	0.487
	7	AOm	0.260	0.120
	8	ENNm	0.350	0.344
	9	SUNSPm	0.327	-0.244
	10	PCOm	-0.102	-0.175
	12	PSCOm	-0.183	0.032
	16	Ulu	0.079	0.065
	17	Uld	0.026	0.086
		% var	33.250	22.832
hydrography	19	t_m	-0.041	0.226
	22	S_m	0.166	-0.576
	25	NO3_m	0.341	-0.264
	28	NO2_m	0.048	0.487
	31	PO4_m	0.533	-0.044
	34	SiO4_m	0.448	0.446
	37	O2_m	-0.320	-0.201
	40	Chla_m	0.194	-0.017
	43	PP_m	0.349	0.047
	46	POC_m	-0.227	0.193
	49	PON_m	-0.232	0.170
		% var	43.596	19.577
phytoplankton	51	P_Dinoflag	-0.034	0.636
	52	P_Diat	-0.020	0.663
	53	P_Cryp	0.160	0.388
	54	P_Other-ph	0.856	-0.056
	55	P_Flag	0.489	0.042
		% var	36.836	29.535

series	series no.	variable	PC 1	PC 2
microzooplankton	57	M_Cope	0.450	0.090
	58	M_Biva	0.090	0.633
	59	M_Tuni	0.282	-0.364
	60	M_Other_mi	0.194	-0.324
	61	M_Cnid-Sip	0.252	-0.300
	62	M_Other-cr	0.319	-0.080
	63	M_Fora	0.435	0.051
	64	M_Tint	0.368	0.159
	65	M_Gast	0.344	0.423
	66	M_Anne	0.253	-0.223
		% var	36.388	21.782
mesozooplankton	68	E_Cope	0.321	-0.311
	69	E_Tuni	0.289	-0.139
	70	E_Biva	0.409	0.122
	71	E_Fish	0.265	0.022
	72	E_Euph	0.295	-0.441
	73	E_Clad	0.343	0.326
	74	E_Gast	0.384	0.163
	75	E_Anne	-0.008	-0.050
	76	E_Deca	0.215	-0.262
	77	E_Chae	0.253	-0.134
	78	E_Cirr	0.231	0.239
	79	E_Bryo	0.088	0.261
	80	E_Cnid	0.101	0.462
	81	E_Fora	-0.166	0.182
	82	E_Other_me	0.120	0.285
		% var	42.115	14.624