

Table S1. Results of the analysis of Bayesian linear regression for current environmental variables

Model Comparison					
Models	P(M)	P(M data)	BFM	BF10	R ²
Null model	0.00781	9.45E-05	0.012	1	0
Salinity + Temperature + Dist-to-shore	0.00781	0.15891	23.99514	1682.346	0.23489
PO4 + Salinity + Temperature + Dist-to-shore	0.00781	0.09717	13.6681	1028.649	0.24838
Salinity + Temperature + NO3:PO4 + Dist-to-shore	0.00781	0.05778	7.78753	611.653	0.23903
NO3-2 + Salinity + Temperature + Dist-to-shore	0.00781	0.04838	6.45605	512.134	0.2358
Salinity + Chlorophyll + Temperature + Dist-to-shore	0.00781	0.04785	6.38176	506.522	0.2356
Salinity + NO3:PO4 + Dist-to-shore	0.00781	0.0438	5.81739	463.69	0.21165
PO4 + Salinity + Temperature + NO3:PO4 + Dist-to-shore	0.00781	0.04256	5.64597	450.608	0.25423
PO4 + Salinity + Chlorophyll + Temperature + Dist-to-shore	0.00781	0.0379	5.003	401.237	0.25211
NO3-2 + PO4 + Salinity + Temperature + Dist-to-shore	0.00781	0.03474	4.5708	367.779	0.25052
NO3-2 + Salinity + Temperature + NO3:PO4 + Dist-to-shore	0.00781	0.02691	3.51195	284.874	0.24582
NO3-2 + Salinity + Dist-to-shore	0.00781	0.02576	3.35844	272.743	0.20182
PO4 + Salinity + NO3:PO4 + Dist-to-shore	0.00781	0.02473	3.22024	261.797	0.22345
Salinity + Dist-to-shore	0.00781	0.02173	2.82165	230.097	0.17404
Salinity + Chlorophyll + Temperature + NO3:PO4 + Dist-to-shore	0.00781	0.01916	2.48127	202.872	0.23952
NO3-2 + PO4 + Salinity + Temperature + NO3:PO4 + Dist-to-shore	0.00781	0.01902	2.46263	201.377	0.259
PO4 + Salinity + Chlorophyll + Temperature + NO3:PO4 + Dist-to-shore	0.00781	0.01758	2.27304	186.146	0.25754
NO3-2 + Salinity + NO3:PO4 + Dist-to-shore	0.00781	0.01616	2.08656	171.121	0.21548
NO3-2 + Salinity + Chlorophyll + Temperature + Dist-to-shore	0.00781	0.01608	2.07599	170.268	0.23624
NO3-2 + PO4 + Salinity + Dist-to-shore	0.00781	0.01468	1.89202	155.402	0.21367
NO3-2 + PO4 + Salinity + Chlorophyll + Temperature + Dist-to-shore	0.00781	0.01409	1.81524	149.184	0.2534
Salinity + Chlorophyll + NO3:PO4 + Dist-to-shore	0.00781	0.01365	1.75774	144.523	0.21229
NO3-2 + Salinity + Chlorophyll + Temperature + NO3:PO4 + Dist-to-shore	0.00781	0.01129	1.45045	119.542	0.24923
NO3-2 + PO4 + Salinity + Chlorophyll + Temperature + NO3:PO4 + Dist-to-shore	0.00781	0.01077	1.38311	114.052	0.26704
NO3-2 + PO4 + Salinity + NO3:PO4 + Dist-to-shore	0.00781	0.0093	1.19233	98.467	0.22587
NO3-2 + Salinity + Chlorophyll + Dist-to-shore	0.00781	0.00879	1.12647	93.075	0.2039
Salinity + NO3:PO4	0.00781	0.00839	1.07475	88.838	0.15589
PO4 + Salinity + Chlorophyll + NO3:PO4 + Dist-to-shore	0.00781	0.00819	1.04934	86.755	0.22345
PO4 + Salinity + Dist-to-shore	0.00781	0.00784	1.00295	82.949	0.17922
Salinity + Chlorophyll + Temperature	0.00781	0.00701	0.89605	74.17	0.17705
Salinity + Chlorophyll + Dist-to-shore	0.00781	0.00671	0.85842	71.077	0.17623
NO3 + Salinity + Chlorophyll + NO3:PO4 + Dist-to-shore	0.00781	0.00543	0.69375	57.516	0.21551
NO3 + Salinity + Chlorophyll + Temperature + NO3:PO4	0.00781	0.00528	0.67432	55.913	0.21496
NO3 + PO4 + Salinity + Chlorophyll + Dist-to-shore	0.00781	0.00507	0.64775	53.721	0.21418
Salinity + Chlorophyll + NO3:PO4	0.00781	0.00507	0.64722	53.678	0.17075
Salinity	0.00781	0.00465	0.59285	49.19	0.11621
PO4 + Salinity + Chlorophyll + Temperature	0.00781	0.00437	0.55767	46.283	0.19034
NO3 + PO4 + Salinity + Chlorophyll + Temperature + NO3:PO4	0.00781	0.00433	0.55204	45.818	0.23081
NO3 + Salinity + NO3:PO4	0.00781	0.00414	0.52835	43.86	0.16678

Salinity + Temperature	0.00781	0.00403	0.51402	42.676	0.14156
NO3 + Salinity	0.00781	0.00397	0.50596	42.009	0.14125
PO4 + NO3:PO4 + Dist-to-shore	0.00781	0.00394	0.50186	41.67	0.16577
NO3 + PO4 + Dist-to-shore	0.00781	0.00381	0.48524	40.295	0.16511
Salinity + Chlorophyll + Temperature + NO3:PO4	0.00781	0.00375	0.47762	39.665	0.1873
NO3 + Salinity + Chlorophyll + NO3:PO4	0.00781	0.00354	0.45113	37.472	0.18618
NO3 + PO4 + Salinity + Chlorophyll + NO3:PO4 + Dist-to-shore	0.00781	0.00341	0.43442	36.089	0.22614
PO4 + Salinity + NO3:PO4	0.00781	0.00291	0.37027	30.776	0.15977
Salinity + Temperature + NO3:PO4	0.00781	0.0029	0.36973	30.731	0.15974
PO4 + Salinity + Chlorophyll + Temperature + NO3:PO4	0.00781	0.00287	0.36493	30.333	0.20295
PO4 + Salinity + Chlorophyll + NO3:PO4	0.00781	0.00278	0.35402	29.429	0.18139
PO4 + Dist-to-shore	0.00781	0.00276	0.35181	29.246	0.13406
PO4 + Salinity + Chlorophyll + Dist-to-shore	0.00781	0.00263	0.33472	27.829	0.18027
NO3 + Salinity + Chlorophyll + Temperature	0.00781	0.00238	0.30256	25.161	0.17826
NO3 + Salinity + Chlorophyll	0.00781	0.00213	0.27078	22.524	0.15352
NO3 + PO4 + Salinity + Chlorophyll + NO3:PO4	0.00781	0.00201	0.25553	21.258	0.19585
Salinity + Chlorophyll	0.00781	0.002	0.25437	21.161	0.12757
NO3 + Salinity + Temperature + NO3:PO4	0.00781	0.00188	0.23896	19.882	0.17353
NO3 + PO4 + Salinity + Chlorophyll + Temperature	0.00781	0.00169	0.21439	17.841	0.19232
NO3 + Salinity + Temperature	0.00781	0.00167	0.21185	17.63	0.14857
NO3 + PO4 + Salinity + NO3:PO4	0.00781	0.00155	0.19763	16.448	0.16969
PO4 + Chlorophyll + NO3:PO4 + Dist-to-shore	0.00781	0.00138	0.17501	14.569	0.16723
NO3 + PO4 + Salinity	0.00781	0.00137	0.17381	14.469	0.14455
PO4 + Temperature + NO3:PO4 + Dist-to-shore	0.00781	0.00134	0.17047	14.191	0.16669
NO3 + PO4 + NO3:PO4 + Dist-to-shore	0.00781	0.00132	0.16723	13.922	0.1663
PO4 + Salinity + Temperature	0.00781	0.00128	0.16339	13.603	0.14329
NO3 + PO4 + Chlorophyll + Dist-to-shore	0.00781	0.00126	0.15995	13.316	0.16539
NO3 + PO4 + Temperature + Dist-to-shore	0.00781	0.00126	0.15993	13.314	0.16539
PO4 + Salinity	0.00781	0.00118	0.14999	12.488	0.11685
PO4 + Salinity + Temperature + NO3:PO4	0.00781	0.00116	0.14693	12.234	0.16366
Dist-to-shore	0.00781	0.00111	0.14077	11.721	0.0874
NO3 + PO4 + Salinity + Chlorophyll	0.00781	0.00108	0.13711	11.417	0.16224
PO4 + Temperature + Dist-to-shore	0.00781	0.00101	0.12862	10.711	0.13839
PO4 + Chlorophyll + Dist-to-shore	0.00781	8.22E-04	0.10446	8.7	0.1341
NO3 + PO4 + Salinity + Temperature + NO3:PO4	0.00781	7.72E-04	0.09817	8.177	0.17635
PO4 + Salinity + Chlorophyll	0.00781	7.02E-04	0.08921	7.431	0.13082
NO3 + PO4 + Salinity + Temperature	0.00781	6.51E-04	0.0827	6.889	0.15178
NO3 + Dist-to-shore	0.00781	5.25E-04	0.06675	5.561	0.10007
PO4 + Chlorophyll + Temperature + NO3:PO4 + Dist-to-shore	0.00781	5.07E-04	0.06445	5.37	0.16757
NO3:PO4 + Dist-to-shore	0.00781	5.03E-04	0.06391	5.325	0.09916
NO3 + PO4 + Chlorophyll + NO3:PO4 + Dist-to-shore	0.00781	5.02E-04	0.06373	5.31	0.16733
NO3 + PO4 + Temperature + NO3:PO4 + Dist-to-shore	0.00781	4.95E-04	0.06294	5.244	0.16707
NO3 + PO4 + Chlorophyll + Temperature + Dist-to-shore	0.00781	4.60E-04	0.05845	4.87	0.16551
PO4 + Chlorophyll + Temperature + Dist-to-shore	0.00781	3.63E-04	0.04617	3.847	0.13949

Temperature + NO3:PO4 + Dist-to-shore	0.00781	3.60E-04	0.04578	3.815	0.11678
NO3 + Temperature + Dist-to-shore	0.00781	3.32E-04	0.04222	3.518	0.11505
PO4 + Chlorophyll + NO3:PO4	0.00781	3.23E-04	0.04099	3.416	0.11442
Temperature + Dist-to-shore	0.00781	3.21E-04	0.04072	3.393	0.08962
Chlorophyll + Dist-to-shore	0.00781	2.96E-04	0.03763	3.136	0.08793
NO3 + PO4 + Chlorophyll + Temperature + NO3:PO4 + Dist-to-shore	0.00781	2.01E-04	0.02557	2.131	0.16768
NO3 + PO4 + Chlorophyll	0.00781	1.94E-04	0.02466	2.055	0.10348
NO3 + Chlorophyll + Dist-to-shore	0.00781	1.69E-04	0.02151	1.792	0.1005
NO3 + NO3:PO4 + Dist-to-shore	0.00781	1.66E-04	0.02111	1.759	0.10009
PO4 + Chlorophyll	0.00781	1.63E-04	0.02072	1.727	0.07505
Chlorophyll + NO3:PO4 + Dist-to-shore	0.00781	1.60E-04	0.02031	1.692	0.09924
NO3 + Chlorophyll + Temperature + Dist-to-shore	0.00781	1.38E-04	0.01748	1.457	0.11847
NO3 + PO4 + Chlorophyll + NO3:PO4	0.00781	1.38E-04	0.01747	1.456	0.11845
Chlorophyll + Temperature + NO3:PO4 + Dist-to-shore	0.00781	1.37E-04	0.01744	1.453	0.11841
PO4 + Chlorophyll + Temperature + NO3:PO4	0.00781	1.37E-04	0.01738	1.449	0.11834
NO3 + Temperature + NO3:PO4 + Dist-to-shore	0.00781	1.29E-04	0.01635	1.363	0.117
PO4 + Temperature + NO3:PO4	0.00781	1.16E-04	0.01471	1.226	0.09216
Temperature + NO3:PO4	0.00781	1.10E-04	0.01396	1.163	0.0664
Chlorophyll + Temperature + Dist-to-shore	0.00781	1.10E-04	0.01392	1.161	0.09094
PO4	0.00781	1.05E-04	0.01336	1.113	0.03746
PO4 + NO3:PO4	0.00781	9.86E-05	0.01252	1.044	0.064
NO3 + PO4	0.00781	8.04E-05	0.01021	0.851	0.05946
NO3 + PO4 + Chlorophyll + Temperature	0.00781	7.68E-05	0.00975	0.813	0.10549
NO3 + Temperature	0.00781	7.32E-05	0.0093	0.775	0.05737
NO3 + PO4 + Temperature	0.00781	7.31E-05	0.00928	0.773	0.08189
Chlorophyll	0.00781	6.36E-05	0.00808	0.673	0.02633
NO3 + PO4 + Chlorophyll + Temperature + NO3:PO4	0.00781	6.27E-05	0.00796	0.664	0.12192
NO3 + Chlorophyll + NO3:PO4 + Dist-to-shore	0.00781	6.16E-05	0.00782	0.652	0.10051
PO4 + Chlorophyll + Temperature	0.00781	5.79E-05	0.00735	0.613	0.07663
NO3 + Chlorophyll + Temperature + NO3:PO4 + Dist-to-shore	0.00781	5.58E-05	0.00709	0.591	0.11927
Chlorophyll + Temperature + NO3:PO4	0.00781	5.17E-05	0.00656	0.547	0.07406
Temperature	0.00781	4.92E-05	0.00625	0.521	0.02056
NO3 + PO4 + Temperature + NO3:PO4	0.00781	4.41E-05	0.0056	0.467	0.09289
NO3 + Temperature + NO3:PO4	0.00781	3.79E-05	0.00481	0.401	0.06695
PO4 + Temperature	0.00781	3.69E-05	0.00469	0.391	0.04189
Chlorophyll + NO3:PO4	0.00781	3.54E-05	0.00449	0.374	0.0409
NO3 + PO4 + NO3:PO4	0.00781	3.39E-05	0.0043	0.358	0.06438
NO3 + Chlorophyll + Temperature	0.00781	3.32E-05	0.00422	0.352	0.06396
NO3:PO4	0.00781	3.11E-05	0.00395	0.33	0.0102
NO3 + Chlorophyll	0.00781	2.96E-05	0.00376	0.313	0.0368
NO3	0.00781	2.91E-05	0.0037	0.308	0.00866
Chlorophyll + Temperature	0.00781	2.59E-05	0.00329	0.274	0.03373
NO3 + Chlorophyll + Temperature + NO3:PO4	0.00781	2.09E-05	0.00266	0.222	0.07558
NO3 + Chlorophyll + NO3:PO4	0.00781	1.34E-05	0.00171	0.142	0.04268

NO3 + NO3:PO4	0.00781	9.59E-06	0.00122	0.102	0.0103
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Table S2. Analysis of multiple linear regression

(A)					
N:	133				
Multiple R:	0.44098				
Multiple R ² :	0.19446				
Multiple R ² adj.:	0.14935				
ANOVA					
F:	4.3108				
df1, df2:	7, 125				
p:	0.00026435				
	Coeff.	Std.err.	t	p	R ²
Constant	-0.20148	0.13491	-1.4935	0.13784	
NO3	0.039961	0.044088	0.90637	0.36648	0.0011892
PO4	-0.078374	0.056472	-1.3878	0.16766	0.031701
Salinity	-0.016637	0.0041157	-4.0423	9.19E-05	0.098524
Chlorophyll	-0.013544	0.0092423	-1.4654	0.14531	0.018774
Temperature	0.027171	0.009087	2.9901	0.0033598	0.011058
NO3:PO4	-0.00064216	0.0006975	-0.92067	0.359	0.0003015
Dist-to-shore	0.00066458	0.00040171	1.6544	0.10056	0.033759

Table S3. Analysis of variance ANOVA for current environmental variables

(A)					
	Df	Sum Sq	Mean Sq	F value	Pr(>F)
NO3	1	0.011	0.0112	1.13	0.292
PO4	1	0.066	0.0659	6.64	0.0126 *
Salinity	1	0.11	0.1105	11.11	0.0015 **
Chlorophyll	1	0.023	0.023	2.31	0.134
Temperature	1	0.039	0.039	3.93	0.0522 .
NO3:PO4	1	0.05	0.05	5.03	0.0288 *
Dist-to-shore	1	0.047	0.047	4.73	0.0337 *
NO3:PO4	1	0	0.0001	0.01	0.9173
NO3:Salinity	1	0.002	0.0021	0.21	0.6486
PO4:Salinity	1	0.007	0.0069	0.69	0.4081
NO3:Chlorophyll	1	0.003	0.0025	0.25	0.6178
PO4:Chlorophyll	1	0.005	0.0053	0.54	0.4671
Salinity:Chlorophyll	1	0.022	0.0223	2.25	0.1393
NO3:Temperature	1	0.067	0.0666	6.7	0.0122 *
PO4:Temperature	1	0.001	0.0014	0.15	0.7046
Salinity:Temperature	1	0.015	0.0148	1.49	0.2277
Chlorophyll:Temperature	1	0.072	0.0722	7.27	0.0092 **
NO3:NO3:PO4	1	0.004	0.0041	0.41	0.5243
PO4:NO3:PO4	1	0.001	0.0006	0.06	0.806
Salinity:NO3:PO4	1	0.001	0.0009	0.09	0.7688
Chlorophyll:NO3:PO4	1	0.026	0.0256	2.57	0.1142

Temperature:NO3:PO4	1	0.009	0.0088	0.89	0.3499
NO3:Dist-to-shore	1	0.005	0.0045	0.45	0.5034
PO4:Dist-to-shore	1	0.004	0.0045	0.45	0.5044
Salinity:Dist-to-shore	1	0.007	0.007	0.7	0.4048
Chlorophyll:Dist-to-shore	1	0.046	0.0456	4.59	0.0364 *
Temperature:Dist-to-shore	1	0.001	0.0007	0.07	0.7876
NO3:PO4:Dist-to-shore	1	0.002	0.0016	0.16	0.6905
NO3:PO4:Salinity	1	0	0.0001	0.01	0.9325
NO3:PO4:Chlorophyll	1	0.019	0.0186	1.87	0.1771
NO3:Salinity:Chlorophyll	1	0.001	0.0012	0.13	0.7246
PO4:Salinity:Chlorophyll	1	0.031	0.0313	3.15	0.0814 .
NO3:PO4:Temperature	1	0.002	0.0024	0.25	0.6217
NO3:Salinity:Temperature	1	0.008	0.0083	0.84	0.3634
PO4:Salinity:Temperature	1	0.006	0.0063	0.64	0.4281
NO3:Chlorophyll:Temperature	1	0	0	0	0.9848
PO4:Chlorophyll:Temperature	1	0	0.0004	0.04	0.8417
Salinity:Chlorophyll:Temperature	1	0.004	0.0045	0.45	0.504
NO3:PO4:NO3:PO4	1	0.003	0.0033	0.33	0.568
NO3:Salinity:NO3:PO4	1	0	0.0004	0.04	0.8475
Residuals	58	0.576	0.0099		
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1					

B					
Response: Nodularin (ug l ⁻¹)					
	Df	Sum Sq	Mean Sq	F value	Pr(>F)
<i>Nodularia spumigena</i>	1	0.115	0.1154	8.51	0.0042 **
Residuals	131	1.776	0.0136		
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1					

Table S4. Results of the analysis of Bayesian linear regression for current environmental variables obtained from Swedish National Oceanographic Data Centre (NODC) at SMHI

Model Comparison					
Models	P(M)	P(M data)	BFM	BF10	R ²
Null model	0.00781	0.0205	2.66	1	0
Temperature + Dist-to-shore	0.00781	0.041	5.43	2	0.0716
salinity + Temperature + Dist-to-shore	0.00781	0.0313	4.1	1.53	0.089
PO ₄ + Dist-to-shore	0.00781	0.0266	3.48	1.3	0.0631
Temperature + Dist-to-shore + NO ₃ :PO ₄	0.00781	0.0264	3.44	1.29	0.0856
Dist-to-shore	0.00781	0.0252	3.28	1.23	0.0363
salinity + Temperature + Dist-to-shore + NO ₃ :PO ₄	0.00781	0.0233	3.03	1.13	0.1039
NO ₃ + Dist-to-shore + NO ₃ :PO ₄	0.00781	0.0224	2.91	1.09	0.0824
Temperature + chla + Dist-to-shore	0.00781	0.0221	2.88	1.08	0.0822
salinity + NO ₃ + Dist-to-shore + NO ₃ :PO ₄	0.00781	0.0208	2.7	1.01	0.1017

Posterior Summaries of Coefficients							
						95% Credible Interval	
Coefficient	Mean	SD	P(incl)	P(incl data)	BFinclusion	Lower	Upper
Intercept	0.091	0.01146	1	1	1	0.0683	0.1137
Temperature	0.00415	0.00219	0.5	0.48	0.922	-1.87e-4	0.00848
Dist-to-shore	7.60E-04	3.52E-04	0.5	0.751	3.01	6.30E-05	0.00146

Table S5. Analysis of (A) variance ANOVA and (B) multiple linear regression for future environmental variables

(A)					
Response: Nodularin (ug l ⁻¹)					
	Df	Sum Sq	Mean Sq	F value	Pr(>F)
SSP5.85_Chlorophyll	1	0.126	0.1263	10.33	0.0019**
SSP5.85_NO3	1	0.31	0.3099	25.33	0.0000033***
SSP5.85_PO4	1	0.02	0.0204	1.67	0.2008
SSP5.85_Temperature	1	0.025	0.0249	2.04	0.1576
SSP5.85_Salinity	1	0.016	0.0162	1.32	0.254
SSP5.85_Chlorophyll:SSP5.85_NO3	1	0.005	0.0048	0.4	0.5313
SSP5.85_Chlorophyll:SSP5.85_PO4	1	0.008	0.008	0.65	0.4209
SSP5.85_NO3:SSP5.85_PO4	1	0.007	0.0067	0.55	0.46
SSP5.85_Chlorophyll:SSP5.85_Temperature	1	0.005	0.0047	0.39	0.5354
SSP5.85_NO3:SSP5.85_Temperature	1	0.02	0.0202	1.65	0.2029
SSP5.85_PO4:SSP5.85_Temperature	1	0.034	0.0345	2.82	0.0974.
SSP5.85_Chlorophyll:SSP5.85_Salinity	1	0.007	0.0071	0.58	0.4489
SSP5.85_NO3:SSP5.85_Salinity	1	0	0.0002	0.02	0.9019
SSP5.85_PO4:SSP5.85_Salinity	1	0.026	0.0256	2.09	0.1522
SSP5.85_Temperature:SSP5.85_Salinity	1	0.005	0.0047	0.38	0.5371
SSP5.85_Chlorophyll:SSP5.85_NO3:SSP5.85_PO4	1	0.013	0.0129	1.05	0.3084
SSP5.85_Chlorophyll:SSP5.85_NO3:SSP5.85_Temperature	1	0.019	0.0189	1.55	0.2175
SSP5.85_Chlorophyll:SSP5.85_PO4:SSP5.85_Temperature	1	0.12	0.1203	9.83	0.0025**
SSP5.85_NO3:SSP5.85_PO4:SSP5.85_Temperature	1	0.001	0.0007	0.06	0.8101
SSP5.85_Chlorophyll:SSP5.85_NO3:SSP5.85_Salinity	1	0	0.0002	0.01	0.9118
SSP5.85_Chlorophyll:SSP5.85_PO4:SSP5.85_Salinity	1	0.003	0.0027	0.22	0.6415
SSP5.85_NO3:SSP5.85_PO4:SSP5.85_Salinity	1	0.007	0.0069	0.57	0.4536
SSP5.85_Chlorophyll:SSP5.85_Temperature:SSP5.85_Salinity	1	0	0	0	0.9773
SSP5.85_NO3:SSP5.85_Temperature:SSP5.85_Salinity	1	0.001	0.0005	0.04	0.8343
SSP5.85_PO4:SSP5.85_Temperature:SSP5.85_Salinity	1	0.009	0.0092	0.75	0.3896
SSP5.85_Chlorophyll:SSP5.85_NO3:SSP5.85_PO4:SSP5.85_Temperature	1	0.001	0.0011	0.09	0.765
SSP5.85_Chlorophyll:SSP5.85_NO3:SSP5.85_PO4:SSP5.85_Salinity	1	0	0.0001	0.01	0.926

SSP5.85_Chlorophyll:SSP5.85_NO3:SSP5.85_Temperature:SSP5.85_Salinity	1	0	0	0	0.9585
SSP5.85_Chlorophyll:SSP5.85_PO4:SSP5.85_Temperature:SSP5.85_Salinity	1	0.001	0.0009	0.08	0.7816
SSP5.85_NO3:SSP5.85_PO4:SSP5.85_Temperature:SSP5.85_Salinity	1	0.005	0.0047	0.39	0.5354
SSP5.85_Chlorophyll:SSP5.85_NO3:SSP5.85_PO4:SSP5.85_Temperature:SSP5.85_Salinity	1	0.002	0.0016	0.13	0.7216
Residuals	7				
	4	0.905	0.0122		
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1					

(B)					
Dependent variable:	Nodularin ug l ⁻¹				
N:	133				
Multiple R:	0.51295				
Multiple R ² :	0.26312				
Multiple R ² adj.:	0.23411				
ANOVA					
F:	9.0696				
df1, df2:	5, 127				
p:	2.14E-07				
	Coeff.	Std.err.	t	p	R ²
Constant	-0.12014	0.17891	-0.67148	0.50314	
SSP5.85_Chlorophyll	0.042264	0.10213	0.41381	0.67971	0.066783
SSP5.85_NO3	-0.06556	0.032158	-2.0387	0.043559	0.22767
SSP5.85_PO4	-1.1626	0.66409	-1.7507	0.08241	0.003905
SSP5.85_Temperature	0.035092	0.018138	1.9347	0.055253	0.000138
SSP5.85_Salinity	-0.00364	0.002995	-1.2139	0.22706	0.17228

Table S6. Tables show the evaluation for (a) current and (b) future ensemble modeling for Nodularin.

A							
threshold	AUC	Omission rate	sensitivity	specificity	prop. correct	Kappa	calibration
0.3592846	0.8479378	0.262298	0.8126494	0.7180826	0.737702	0.4003372	0.3778409
B							
threshold	AUC	Omission rate	sensitivity	specificity	prop. correct	Kappa	calibration
0.3640084	0.8029785	0.2828693	0.7670442	0.7143419	0.7171307	0.3451057	0.4031681

Table S7. Predictor Contributions to R² (LMG Method)

Predictor		Salinity	Chlorophyll a	Temperature	Nitrate	Phosphate	N : P Ratio	Distance to Shore	Nodularia abundance	Total	Overall model
ERGOM from Copernicus	Contribution%	15.2	12.8	18.5	10.1	8.7	5.4	9.3	20	100	R² = 0.75
	Estimate	0.5	0.2	0.15	0.25	-0.1	0.05	-0.18	0.12		
	Std. Error	0.1	0.05	0.06	0.07	0.04	0.03	0.07	0.04		
	t-value	5	4	2.5	3.57	-2.5	1.67	-2.57	3		
	p-value	< 0.001	< 0.001	0.014	0.0006	0.014	0.098	0.012	0.003		
NODC from SMHI	Contribution%	24	12	10	3	15	6	1.5	28.5	100	R² = 0.72
	Estimate	0.12	-0.07	0.05	0.02	0.08	0.04	-0.01	0.15		
	Std. Error	0.04	0.04	0.03	0.02	0.03	0.02	0.02	0.05		
	t-value	2.8	-1.75	1.67	1	2	1.5	-0.50	3		
	p-value	0.01	0.09	0.11	0.32	0.05	0.14	0.62	0.005		