

Supplementary Material

Decoupling silicon metabolism from carbon and nitrogen assimilation poises diatoms to exploit episodic nutrient pulses in a coastal upwelling system

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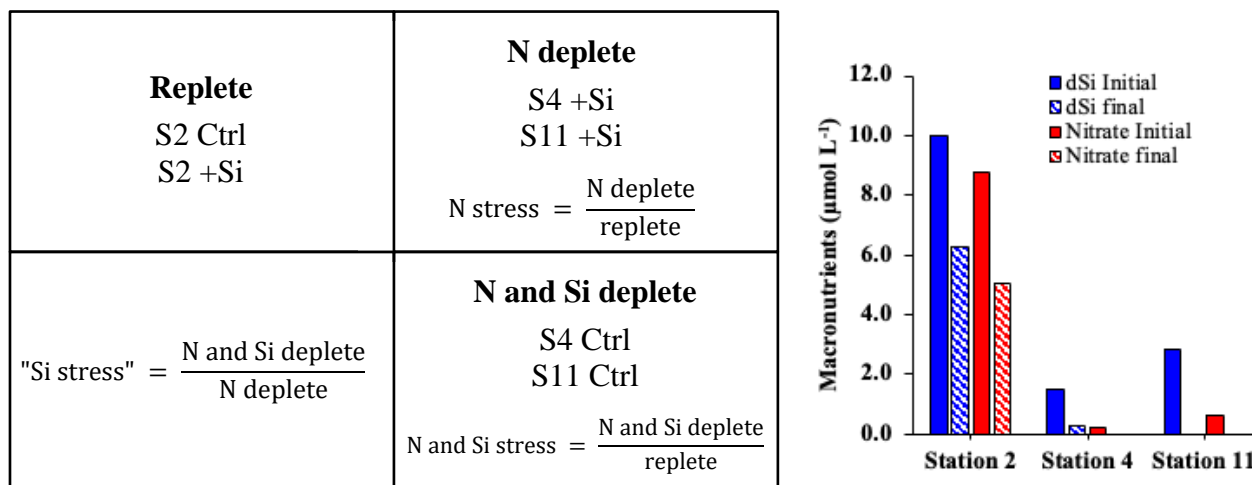
Supplementary Figures and Tables

Table S1: Biomass specific silica production rates measured throughout the course of the incubations. Production rate at the end of S11 incubations (36 h) were not able to be measured and values were modelled as described in Methods.

Sample ID	Biomass specific bSi production rate			
	4 h V_b (d^{-1})	12 h V_b (d^{-1})	24 h V_b (d^{-1})	36 h* V_b (d^{-1})
S2 Ctrl	NA	0.62	0.62	NA
S2 +Si	NA	0.65	0.64	NA
S4 Ctrl	NA	0.35	0.21	NA
S4 +Si	NA	1.22	1.21	NA
S11 Ctrl	0.88	0.66	NA	0.02
S11 +Si	1.10	1.16	NA	0.80

Table S2: Si Stress ratio ($V_b:V_{+Si}$) values at various intervals through the incubations in control (Ctrl) and Si amended (+Si) treatments.

Sample ID	Si Stress ratio				
	T0 - 4 h	T0 - 12 h	4 - 12 h	12 - 24 h	36 h
S2 Ctrl	NA	0.95	NA	0.97	NA
S2 +Si	NA	1.00	NA	1.00	NA
S4 Ctrl	NA	0.28	NA	0.17	NA
S4 +Si	NA	1.00	NA	1.00	NA
S11 Ctrl	0.8	0.57	0.47	NA	0.03
S11 +Si	1.0	1.00	1.00	NA	1.00



Supplementary Figure 1. Left - Macronutrient status of the Ctrl and Si amended (+Si) samples from S2, S4, and S11 and the comparisons used to assess the various stress responses. Right graph - Initial and final dissolved silicon (dSi) and nitrate concentrations in the incubation bottles.