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Supplement of

Daily variation in net primary production and net calcification in coral reef communities exposed to elevated $p\text{CO}_2$

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Supplementary Table 1: Parameters of the hyperbolic tangent functions describing the relationship between community net photosynthesis (P_{net}) in the light and PAR in three coral reef communities representing the back reef of Mo'orea, the back reef of O'ahu, and the fore reef of Mo'orea. Communities were incubated under ambient pCO_2 (~400 μatm) and elevated pCO_2 (~1200 μatm). Parameters of the hyperbolic function are the maximum rate ($P_{net max}$), the slope of the initial portion of the relationship (α), and the intercept (C_0).

Experiment	Treatment	$P_{net max}$	α	C_0
Moorea - back reef	Ambient	29.7 ± 3.9	0.16 ± 0.05	-16.0 ± 3.9
	Elevated	26.7 ± 3.4	0.11 ± 0.03	-13.0 ± 3.4
Oahu - back reef	Ambient	33.9 ± 4.1	0.05 ± 0.01	-4.0 ± 2.0
	Elevated	32.9 ± 4.1	0.06 ± 0.01	-5.5 ± 2.2
Moorea - fore reef	Ambient	6.5 ± 2.5	0.02 ± 0.01	2.3 ± 1.9
	Elevated	6.7 ± 2.1	0.03 ± 0.02	0.6 ± 1.7

Supplementary Table 2: Parameters of the hyperbolic tangent functions describing the relationship between community net calcification (G_{net}) in the light and PAR in three coral reef communities representing the back reef of Mo'orea, the back reef of O'ahu, and the fore reef of Mo'orea. Communities were incubated under ambient pCO_2 (~400 μatm) and elevated pCO_2 (~1200 μatm). Parameters of the hyperbolic function are the maximum rate ($G_{net max}$), the slope of the initial portion of the relationship (α), and the intercept (C_0).

Experiment	Treatment	$G_{net max}$	α	C_0
Moorea - back reef	Ambient	7.0 ± 0.6	0.02 ± 0.005	1.25 ± 0.7
	Elevated	6.2 ± 0.6	0.02 ± 0.004	-0.5 ± 0.6
Oahu - back reef	Ambient	5.6 ± 0.9	0.03 ± 0.01	4.8 ± 0.9
	Elevated	5.9 ± 1.4	0.009 ± 0.005	3.7 ± 1.0
Moorea - fore reef	Ambient	-5.0 ± 0.9	0.01 ± 0.00	2.8 ± 0.5
	Elevated	-5.4 ± 0.7	0.02 ± 0.0	0.6 ± 0.5