

**Table S2.** Summary of other paired *Diploastrea*-*Porites* proxy calibration studies compared with this study.

Proxy	Source	Study site	Coral species	y-intercept, b	slope, m	SST dataset	r <sup>2</sup>	SST range (C)	
Sr/Ca	Correge et al., 2004	Alor, Indonesia/New Caledonia	<i>Diploastrea heliopora</i> *	10.57	-0.06	IGOSS (~10 km away/ local SST	Not reported	22 to 30	
			<i>Porites sp.</i>	10.51	-0.062	IGOSS (~10 km away/ local SST	Not reported	22 to 30	
	Bagnato et al., 2004	Savusavu Bay, Fiji Islands	<i>Diploastrea heliopora</i> **	10.08	-0.034	CACSST		0.71 25 to 29	
			<i>Porites lutea</i>	10.76	-0.054	CACSST	Not reported	25 to 29	
	This study	Palau Island, Philippines	<i>Diploastrea heliopora</i> *	10.66	-0.057	IGOSS (~30 km away)		0.74 24.6 to 30.5	
			<i>Porites lobata</i>	10.79	-0.068	IGOSS (~30 km away)		0.84 24.6 to 30.5	
	δ18O	Watanabe et al., 2003	Alor, Indonesia/ New Caledonia	<i>Diploastrea heliopora</i> *	-0.23	-0.18	In situ (New Caledonia)		0.88 22 to 33
				<i>Porites sp.</i>	Not reported	-0.19	In situ (New Caledonia)		
		Bagnato et al., 2004	Savusavu Bay, Fiji Islands	<i>Diploastrea heliopora</i> *	-0.26	-0.16	CACSST		0.88 25 to 29
				<i>Porites sp.</i>	Not reported	-0.18	CACSST		25 to 29
		Damassa et al., 2006	Mafia, Tanzania	<i>Diploastrea heliopora</i> *	Not reported	-0.22	ERSST		0.26 25 to 29
				<i>Diploastrea heliopora</i> *	Not reported	-0.17	ERSST		0.55 25 to 29
Dassie et al., 2015		Kandavu, Fiji Islands	<i>Porites sp.</i>	Not reported	-0.19	ERSST		0.68 25 to 29	
			<i>Diploastrea heliopora</i> *	-0.183	-0.159	IGOSS (~30 km away)		0.38 24.6 to 30.5	
This study		Palau Island, Philippines	<i>Diploastrea heliopora</i> *		-0.143	IGOSS (~30 km away)		0.44 24.6 to 30.5	
			<i>Porites lobata</i>	-0.907					

\*sampled along the *columella*

\*\*sampled along the *septa*