

Table S1. Sources for the Pleistocene depths used in this study. AHD is the Australian Height Datum, equivalent to Mean Sea Level. This study uses average depth values per reef. An analysis on the uncertainties associated to these average depth values is provided in Hinestroza et al. (2022). Please note that these cores were extracted nearby the sand aprons instead of through the sand aprons.

Reef	Code	Location/ Environment	Depth (AHD)	Notes	Source
Wreck	WRK-3	Windward	10	Estimate	(Dechnik et al., 2015)
Wreck	WRK-2	Leeward	10	Estimate	(Dechnik et al., 2015)
Wreck	WRK-1	Leeward	10.5	Estimate	(Dechnik et al., 2015)
Wreck	WRK-4	Leeward	10	Estimate	(Dechnik et al., 2015)
One Tree	OTI-1	Windward	13.2	Measured	(Dechnik et al., 2015)
One Tree	OTI-6	Patch Reef	13.6	Measured	(Dechnik et al., 2015)
One Tree	OTI-5	Leeward	13.5	Measured	(Dechnik et al., 2015)
One Tree	OTR8	Patch reef	13.5	Measured	(Sanborn et al., 2020)
One Tree	OTR-9	Leeward	13.27	Measured	(Sanborn et al., 2020)
One Tree	OTR-10	Leeward	13.56	Measured	(Sanborn et al., 2020)
One Tree	OTR-11	Leeward	13.22	Measured	(Sanborn et al., 2020)
One Tree	OTR-12	Island	12.57	Measured	(Sanborn et al., 2020)
One Tree	OTR-13	Patch Reef	12.64	Measured	(Sanborn et al., 2020)
One Tree	OTR-14	Windward	11.53	Measured	(Sanborn et al., 2020)
One Tree	OTR-15	Leeward	11.98	Measured	(Sanborn et al., 2020)
One Tree	OTR-16	Patch Reef	11.18	Measured	(Sanborn et al., 2020)
One Tree	OTR-18	Windward	11.01	Measured	(Sanborn et al., 2020)
FitzRoy	FIT-3	Windward	10.2	Measured	(Dechnik et al., 2015)
FitzRoy	FIT-2	Leeward	7.4	Measured	(Dechnik et al., 2015)
Fairfax	FFX-3	Windward	8.62	Measured	(Dechnik et al., 2015)
Fairfax	FFX-2	Coral flat	10	Estimate	(Dechnik et al., 2015)
Fairfax	FFX-1	Leeward	9.5	Estimate	(Dechnik et al., 2015)
Heron		Windward	16	Seismic	(Smith et al., 1998)
Heron		Eastward	12	Seismic	(Smith et al., 1998)
Heron		Leeward	15.3	Measured	(Salas-Saavedra et al., 2018)