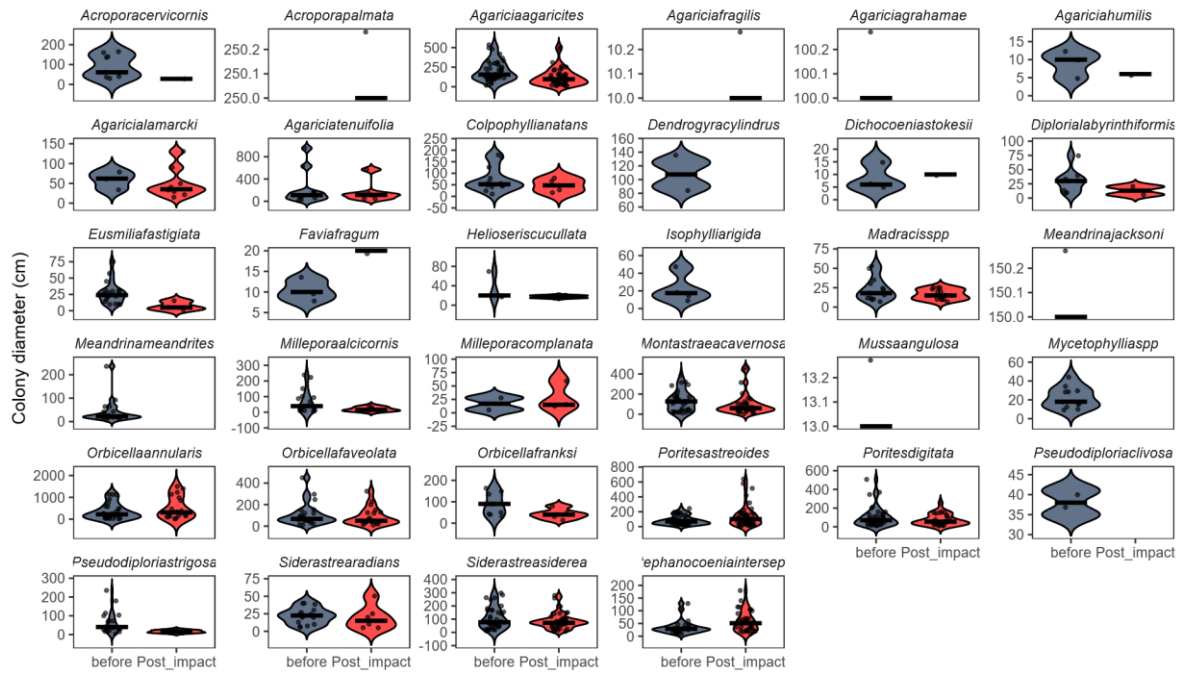


## Supplementary material



Supplementary Figure 1. Change in colony diameter before and after combined SCTLD-thermal stress impact across all species. Colors denote monitoring periods: September 2019 (blue) and November 2024 (red).

Table 1. Non-parametric analysis of differences in colony density between periods: Kruskal–Wallis test and Dunn post-hoc contrasts with Bonferroni correction

<i>Time</i>	<i>p_value</i>	<i>W</i>	<i>Comparison</i>	<i>Z</i>	<i>P.unadj</i>	<i>P.adj</i>
<i>September 2019</i>	6.37E-01	0.9800844	September 2019 - May 2023	-1.3617748	0.17326897	1
	3.09E-07	0.8111813	September 2019 - November 2024	5.11296314	3.1714E-07	1.9029E-06
<i>May 2023</i>						
<i>November 2024</i>	1.12E-02	0.9357881	May 2023 - November 2024	6.88551401	5.7579E-12	3.4548E-11
<i>August 2025</i>	1.89E-03	0.8687019	September 2019 - August 2025	3.36856247	0.00075561	0.00453368
			May 2023 - August 2025	4.74881393	2.0461E-06	1.2277E-05
			November 2024- August 2025	-1.1115178	0.26634554	1

Table 2. PERMANOVA was used to test differences in community structure among time periods. Betadisper assessed homogeneity of dispersion among time periods.

	<i>Df</i>	<i>Sum of Squares</i>	<i>R</i> <sup>2</sup>	<i>F</i>	<i>p-value</i>
<i>Time</i>	1	1.162	0.09455	9.3986	<b>0.001*</b>
	90	11.127	0.90545	—	—
<i>Residual</i>					
<i>Total</i>	91	12.289	1	—	—

Table 3. Non-parametric analysis of differences in coral communities calcification between periods: Kruskal–Wallis test and Dunn post-hoc contrasts with Bonferroni correction

<i>Tiempo</i>	<i>p_value</i>	<i>W</i>	<i>Comparison</i>	<i>Z</i>	<i>P.unadj</i>	<i>P.adj</i>
<i>September 2019</i>	8.55E-09	0.6625946	September 2019 - May 2023	-1.3617748	0.17326897	1
<i>May 2023</i>	5.34E-10	0.6140452	September 2019 - November 2024	5.11296314	3.1714E-07	1.9029E-06
<i>November 2024</i>	4.58E-11	0.5382589	May 2023 - November 2024	6.88551401	5.7579E-12	3.4548E-11
<i>August 2025</i>	4.07E-10	0.3863947	September 2019 - August 2025	3.36856247	0.00075561	0.00453368
			May 2023 - Secuelas2025	4.74881393	2.0461E-06	1.2277E-05
			November 2024- August 2025	-1.1115178	0.26634554	1

