

S10 Table. Details of temporal data of *Ae. aegypti* used to validate model predictions. The location, citation and trap type for each dataset are shown. The r_{xy}^2 value is the correlation coefficient for the modified Chelton method. The p-value indicates whether model estimates were significantly correlated with the time series data. Whether or not studies provide the raw time series data within their supplementary information is indicated; where raw data were not available, data were digitised from figures using WebPlotDigitizer, as detailed in the main text [1]. The data source for each study is indicated. This specifies whether data taken from each study were generated by the study authors or obtained from a co-operative third party who have not made the data publicly available themselves. All published data were licensed under CC BY 4.0 (<https://creativecommons.org/licenses/by/4.0/>), permitting reuse of content with appropriate credit and sourcing of original authors.

Location	Study	Trap type	r_{xy}^2 (95%CI)	P-value	Number of traps	Sampling frequency	Raw data available?	Data source
Manaus	Degener et al. (2014) [2]	BG-Sentinal	0.11 (0.00, 0.33)	0.17	24	14 days	N	Author collection
	Degener et al. (2014) [2]	MosquiTrap	0.08 (0.00, 0.29)	0.28	24	14 days	N	Author collection
Campo Grande	Codeço et al. (2015) [3]	BG-Sentinal	0.61 (0.22, 0.85)	0.03	24	30 days	N	Author collection
Parnamirim	Codeço et al. (2015) [3]	BG-Sentinal	0.10 (0.05, 0.49)	0.32	24	30 days	N	Author collection
Duque de Caxias	Codeço et al. (2015) [3]	BG-Sentinal	0.58 (0.11, 0.86)	0.04	24	30 days	N	Author collection
Novo Iguaçu	Codeço et al. (2015) [3]	BG-Sentinal	0.74 (0.32, 0.92)	0.04	24	30 days	N	Dengue-MI
Porto Alegre	da Cruz Ferreira et al. (2017) [4]	MosquiTrap	0.80 (0.66, 0.89)	0.003	712	7 days	N	Dengue-MI
Vitória	Pepin et al. (2015) [5]	MosquiTrap	0.32 (0.23, 0.41)	<0.001	1392	7 days	Y	Dengue-MI
Governador Valadares	Pepin et al. (2015) [5]	MosquiTrap	0.15 (0.06, 0.28)	0.002	373	7 days	Y	Dengue-MI
Sete Lagoas	Pepin et al. (2015) [5]	MosquiTrap	0.44 (0.32, 0.56)	<0.001	411	7 days	Y	Dengue-MI

References

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5. Pepin KM, Leach CB, Marques-Toledo C, Laass KH, Paixao KS, Luis AD, et al. Utility of mosquito surveillance data for spatial prioritization of vector control against dengue viruses in three Brazilian cities. *Parasit Vectors*. 2015;8: 98. doi:10.1186/s13071-015-0659-y