AUSTRALIAN MARINE RADIOCARBON RESERVOIR EFFECTS: ΔR ATLAS AND ΔR CALCULATOR FOR AUSTRALIAN MAINLAND COASTS AND NEAR-SHORE ISLANDS

SUPPLEMENTARY MATERIAL

Supplementary Materials Table S1 Details of samples used in this study.

Supplementary Materials Table S2 Australian ΔR values obtained on known-age marine molluscs published prior to this study (after Reimer and Reimer 2001 and other sources as noted). See Table S1 for full details. * Species names have been updated to WoRMS Editorial Board (2023). ¥ See Laboratory Codes sheet for a list of laboratories. $ See Methods. Samples that did not meet the inclusion criteria are shaded in grey with the criterion number for rejection given in parenthesis (see Methods and Table 2).

Supplementary Materials Table S3 Australian ΔR values obtained in this study. See Table S1 for full details. * Species names are current to WoRMS Editorial Board (2023). ¥ See Laboratory Codes sheet for a list of laboratories. $ See Methods. Samples that did not meet the inclusion criteria are shaded in grey with the criterion number for rejection given in parenthesis (see Methods and Table 2).

Supplementary Materials Table S4 Average ΔR for major regions of Australia. [a] To estimate the amount of uncertainty to be added to the ΔR value by the non-uniform ^{14}C content of the shellfish the weighted mean for each group has been calculated using the chi-squared (χ2) test. If the group has additional measurement variability (as indicated if χ2 /(*n*−1) is >1) we have added an additional uncertainty (external variance) to the ΔR. In this instance, the uncertainty is calculated by $\sqrt{(S^2\Delta Rpooled + \sigma^2)}$, whereby the external standard deviation (σ_{ext}) is determined by subtracting the ^{14}C measurement variance from the total population variance and obtaining the square root, i.e. $\sigma_{ext} = \sqrt{(\sigma^2 pop + \sigma^2 meas)}$. When χ2 /(*n*−1) is ≤1 the uncertainty on the individual measurements explains the variations within the group of ΔR values and the weighted mean is used (see Mangerud et al. 2006 for detailed explanation).

Supplementary Materials Table S5 ΔR values derived from known-age corals, within the study time frame (AD 1841-1950), from southeast Queensland at c.22-24°S.

Supplementary Materials Table S6 ΔR values based on U-Th dated deep-sea corals, within the study time frame (AD 1841-1950), from Bass Strait and southeast Tasmania.

Supplementary Materials Figures S1–9 Atlas showing the location of all samples used in this study plotted by laboratory number.

Supplementary Materials Figures S10–18 Atlas showing accepted ΔR_{20} values determined in this study.

Supplementary Materials Figure S19 Semivariograms for accepted ΔR values.