Wavelet analysis in response to Reviewer 4, L531.

Wavelet power for MC-S1 δ¹⁸O. Panel a shows the time series interpolated onto a regular grid, b shows the wavelet power analysed using a Morlet wavelet and a continuous wavelet transform (Torrence and Compo, 1998) implemented by the biwavelet R package (Gouhier et al., 2017). The wavelet power is bias-corrected following Liu et al. (2007); the black contour lines enclose regions with a significance level > 0.95 according to a χ² test. The global wavelet spectrum, i.e. the time average of the power spectrum, has a broad peak centred on ∼ 180 a in agreement with the Lomb-Scargle method presented in the main text.
Wavelet power for MC-S2 $\delta^{18}O$, where panels have the same meaning as the previous figure. The power spectrum in MC-S2 has more structure than MC-S1, partly because it is longer. Like MC-S1, there is a peak in the global wavelet spectrum at $\sim 180$ a. The $180$ a period is usually present over time, but falls below the threshold of the $\chi^2$ test between 16 and 18.5 ka. The apparent decrease in low-frequency power around 16 to 18 ka is an artefact of the interpolation applied to the more widely-spaced samples in the original data during this period.

References

