

This supplementary material accompanies the article:

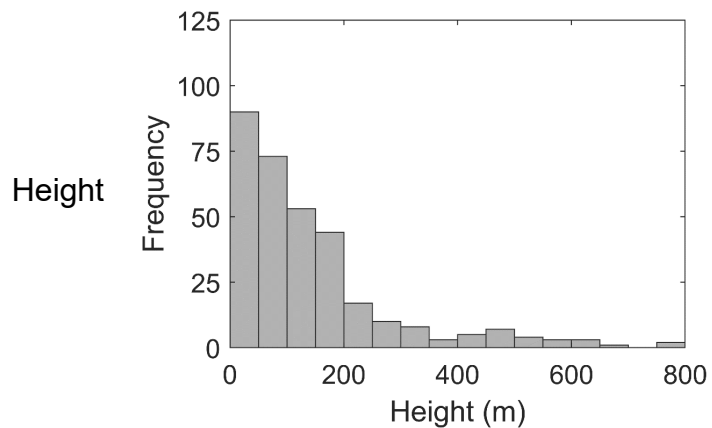
Myers, A. J., Harnett, C. E., Holohan, E. P., Walter, T. R. and Heap, M. J. (2024) "The geometric spectrum of lava domes and spines: New perspectives from analysis of the Morphology of Viscous Extrusions (MoVE) global dataset", *Volcanica*, 7(2), pp. 665–684. doi: 10.30909/vol.07.02.665684.

Figure S1. Histograms of extrusion height (top row), width (middle row), and aspect ratio (bottom row) for: **(L-R)** the full dataset ($n = 323$), the dataset filtered by sample size ($n = 314$), the dataset filtered by age ($n = 265$), and the final filtered dataset after removal of time series data ($n = 185$).

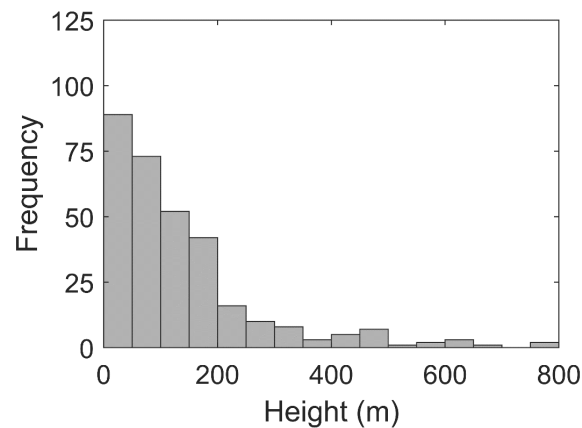
Figure S2. Probability density functions (PDFs) of extrusion height (top row), width (middle row), and aspect ratio (bottom row) for: **(L-R)** the full dataset ($n = 323$), the dataset filtered by sample size ($n = 314$), the dataset filtered by age ($n = 265$), and the final filtered dataset after removal of time series data ($n = 185$). Curves of the predicted fit of three common model distributions (exponential, half-normal, and two-parameter Weibull) are shown; the two-parameter Weibull distribution consistently provides the best fit to the data, particularly for extrusion height and width.

Figure S3. Cumulative frequency curves of: **(L-R)** extrusion height, width, and aspect ratio, where blue circles correspond to data in the full dataset ($n = 323$) and orange triangles correspond to data in the final filtered dataset ($n = 185$). The curves broadly follow a negative exponential distribution with straight line segments in the centre. This is indicative of the data tails being underpopulated and provides evidence in favour of a truncated power law relationship underpinning viscous extrusion geometry.

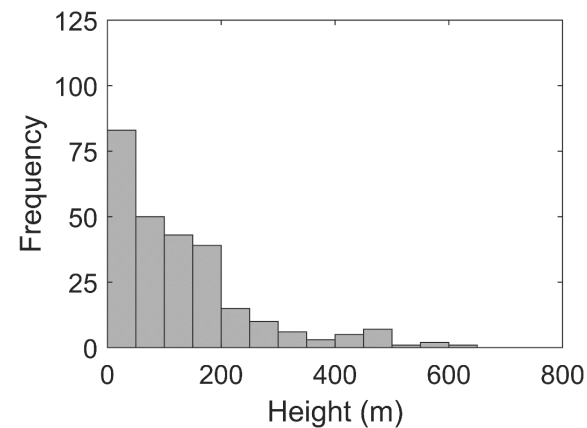
Full dataset
(n = 323)



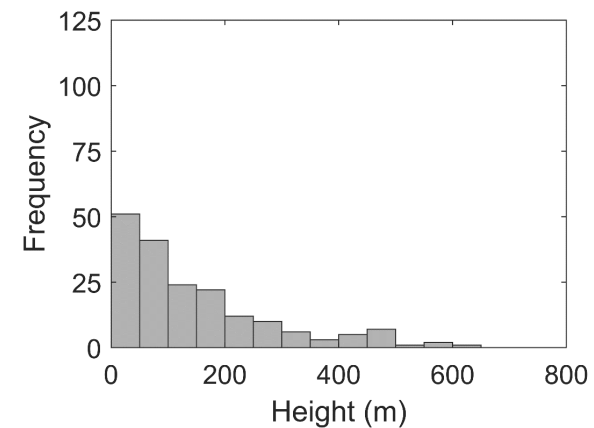
Sample size filtering
(n = 314)



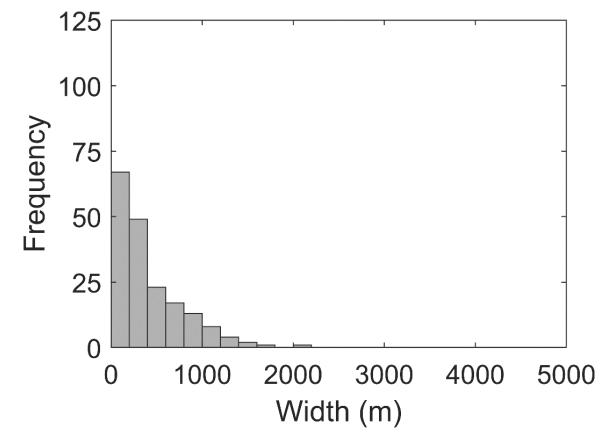
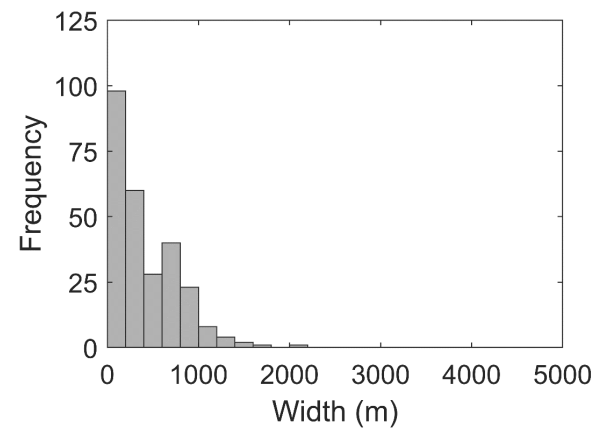
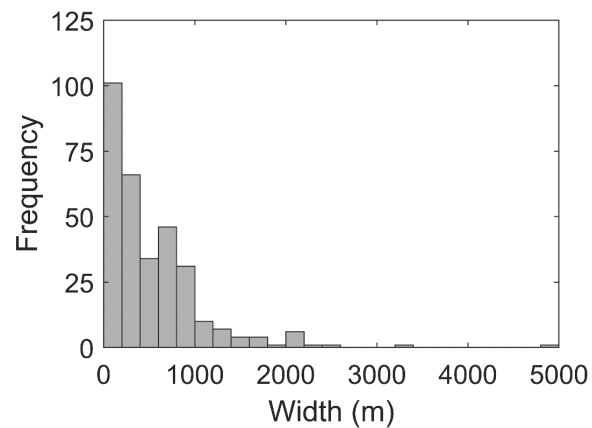
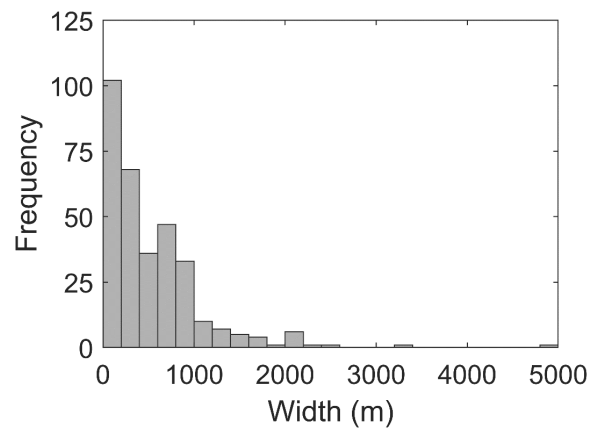
Age filtering
(n = 265)



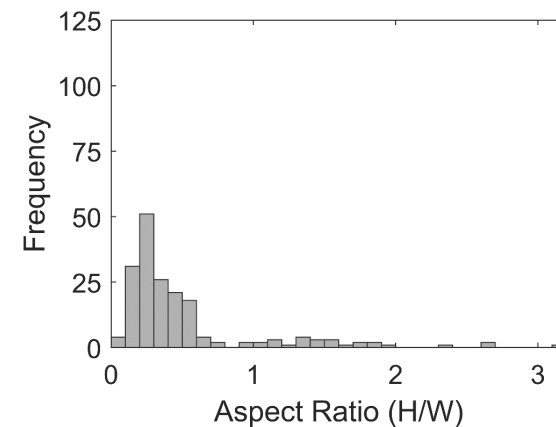
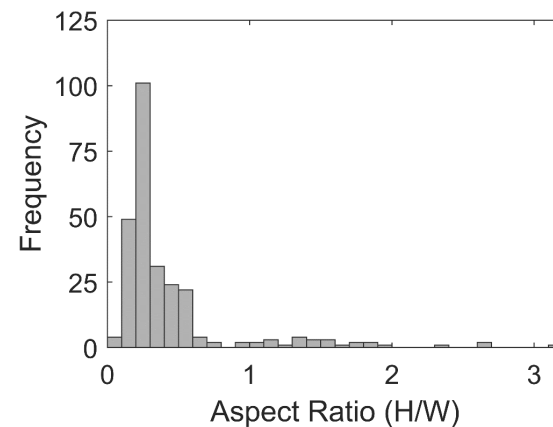
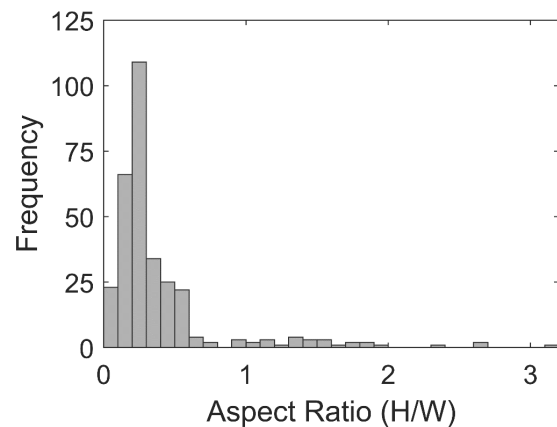
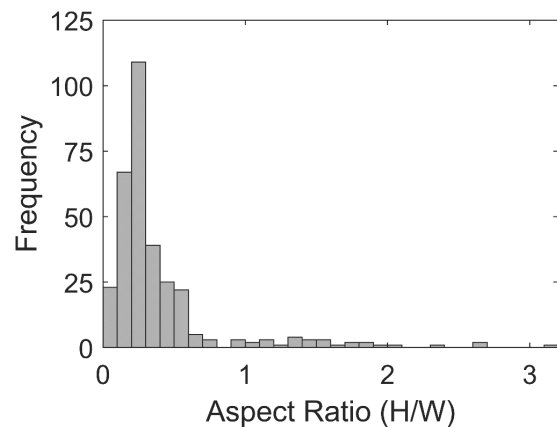
Filtered dataset
(n = 185)



Width



Aspect ratio



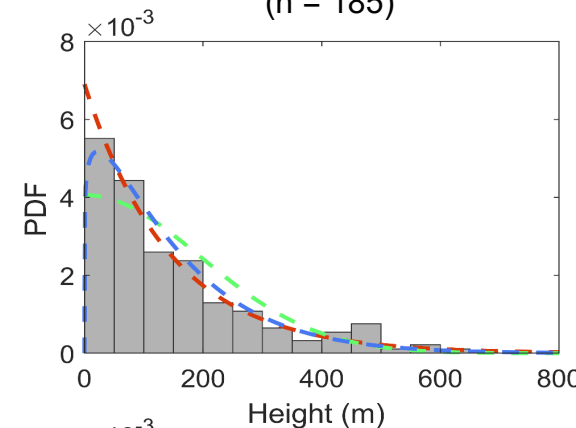
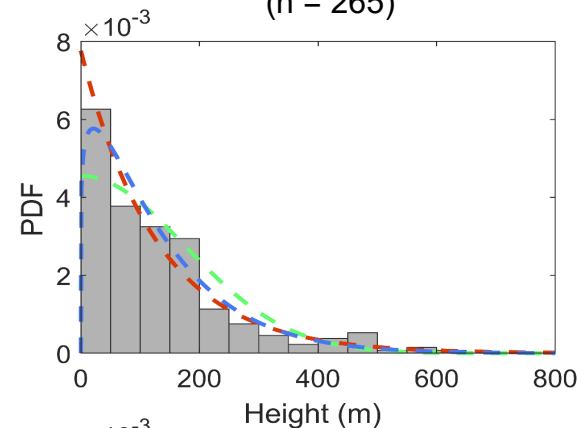
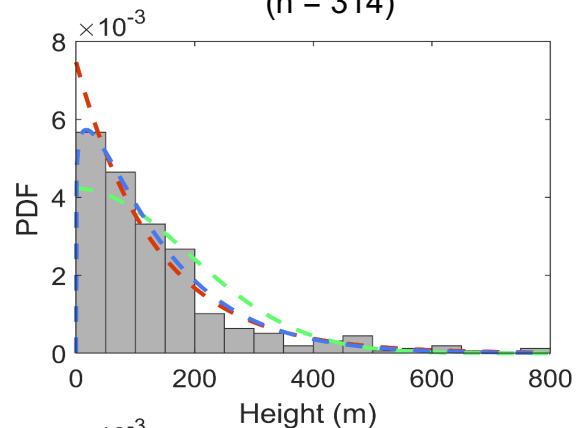
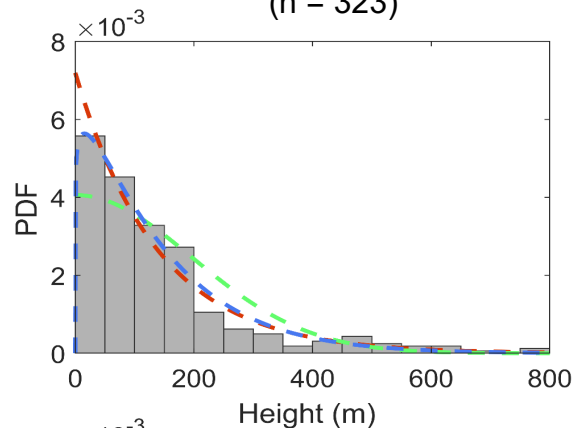
Full dataset
(n = 323)

Sample size filtering
(n = 314)

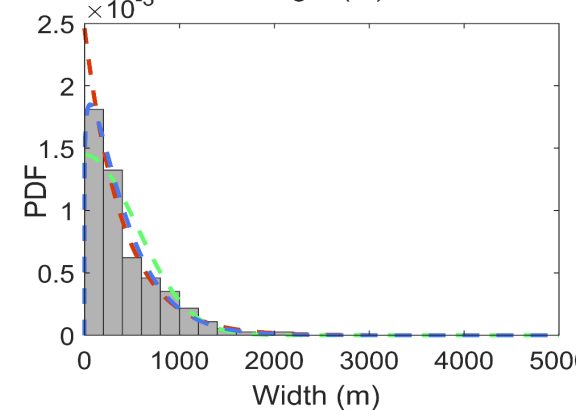
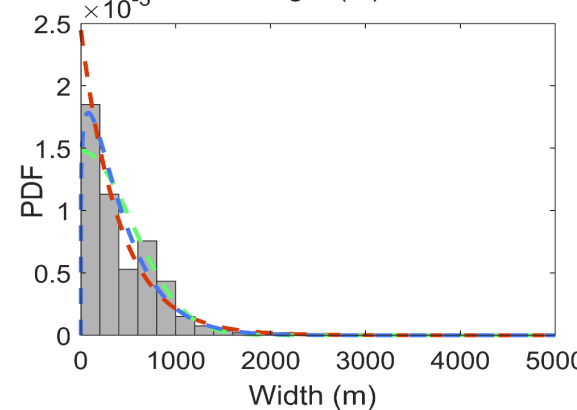
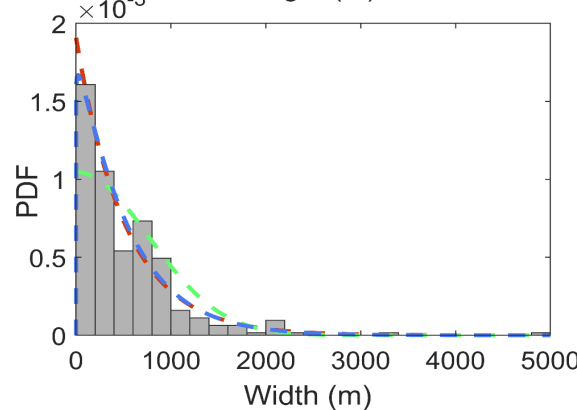
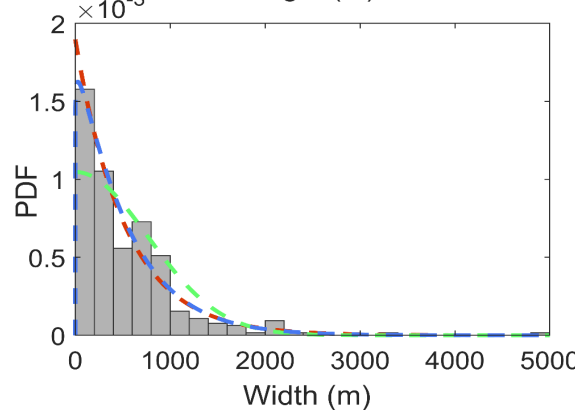
Age filtering
(n = 265)

Filtered dataset
(n = 185)

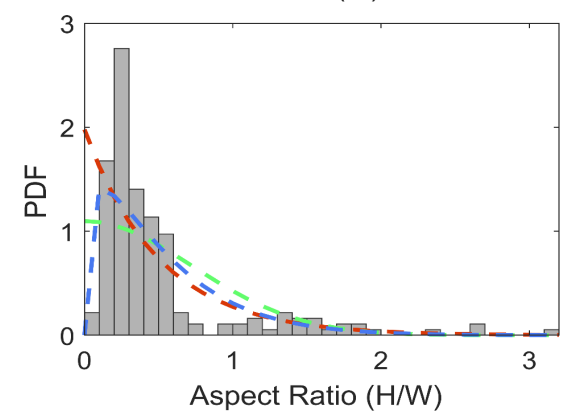
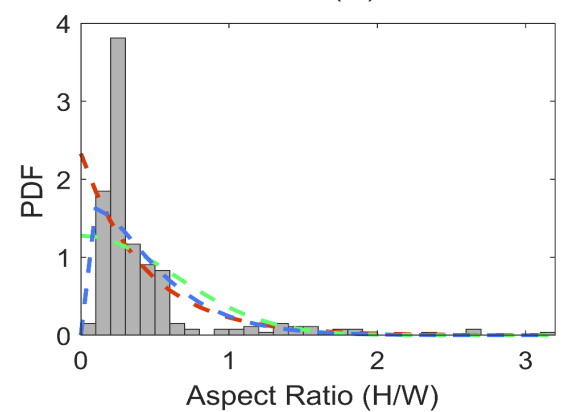
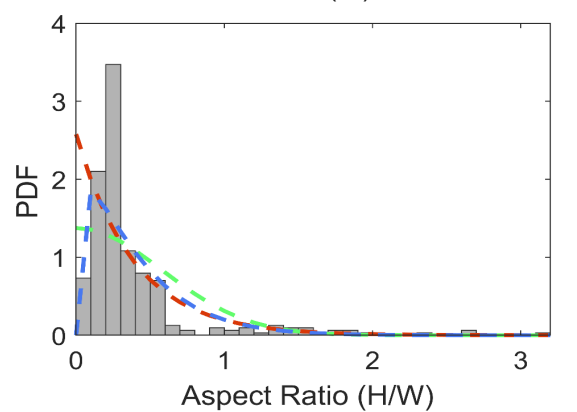
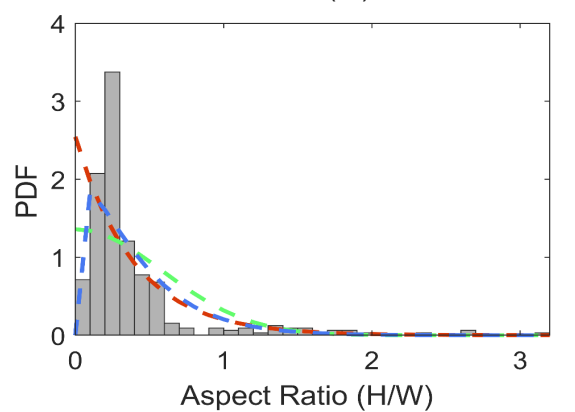
Height



Width



Aspect ratio



--- Exponential --- Half-normal --- Weibull

