Supplement of

Technical Note: Are large error bars desirable? A note on quantitative model-proxy comparison

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Description

The supplementary material consists of two figures (S1-S2; see below).

**Figure S1** The overlapping coefficient $OVL$ between two Gaussian distributions (black curves), and the probability that the true value (assumed to follow the proxy distribution) is within $\bar{x}_m \pm 2\sigma_m$ (red curves), where $\bar{x}_m$ is the model mean and $\sigma_m$ the model standard deviation. All curves are plotted with respect the $\sigma_p/\sigma_m$, where $\sigma_p$ is the standard deviation (uncertainty) of the proxy. The solid lines show cases for which the mean value of the model and the proxy is the same ($x_m = x_p$), and the dashed lines depict cases for which $x_p = x_m + 2\sigma_m$.

**Figure S2** The simplified triangular geometry used to derive the analytical solution of $OVL$ as a function of $q$ (Eq. 3 in the main paper).