Figure S1: Root-mean-square sum of the normalized difference between the prior and posterior CMS-Flux NEP estimates (where the posterior flux is used for normalization).

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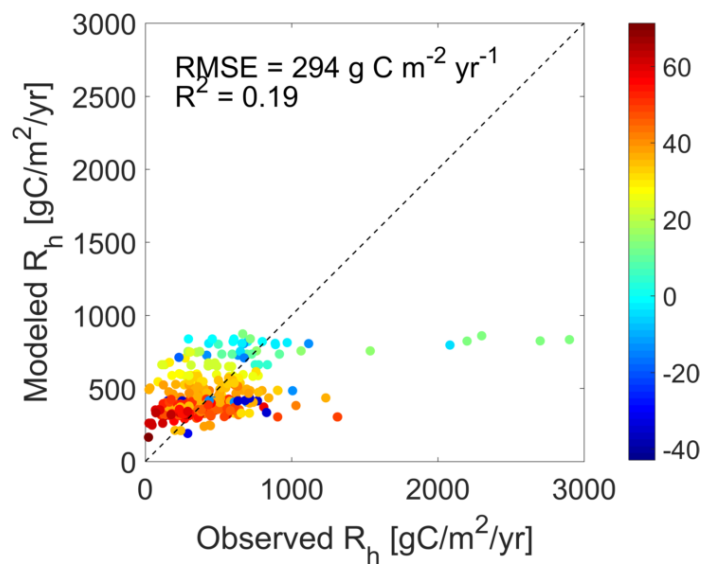
Figure S2: Comparison of observed annual respiration terms at SRDB sites vs. bottom-up estimates at the same sites for (left) 1979 soil respiration sites and (right) 362 heterotrophic respiration sites. Parameters in the bottom-up equations are sequentially optimized on the entire R_s dataset. All R_h observations are then used to optimize the parameters of the R_h-R_s relationship. Each point denotes a single experiment and is colored by the experiment's latitude.

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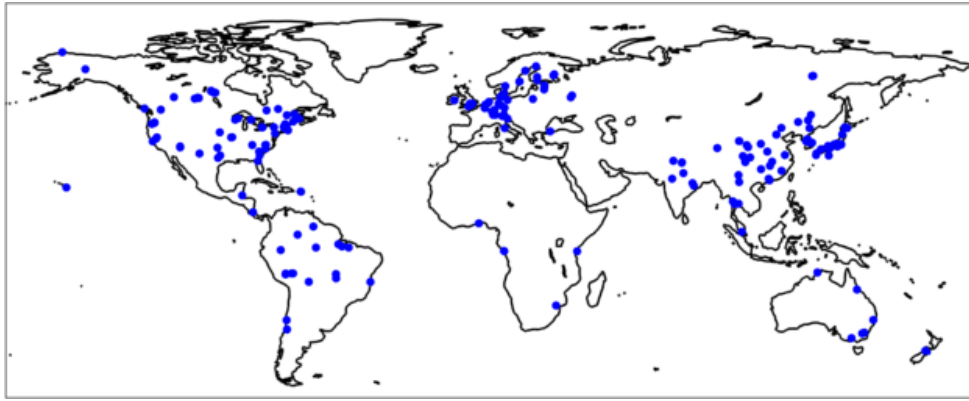
Figure S3: Locations of R$_h$ experiments in SRDB.
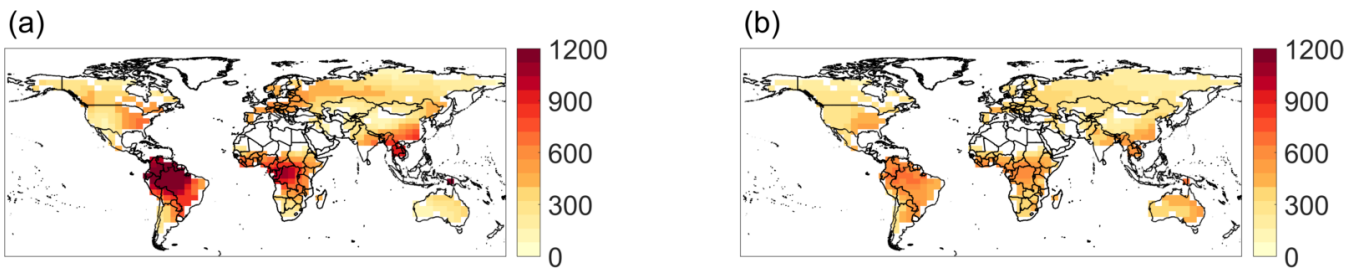
Figure S4: Mean R$_h$ [gC m^{-2} yr^{-1}] from the (left) top-down and (right) bottom-up models.