

Appendix S2

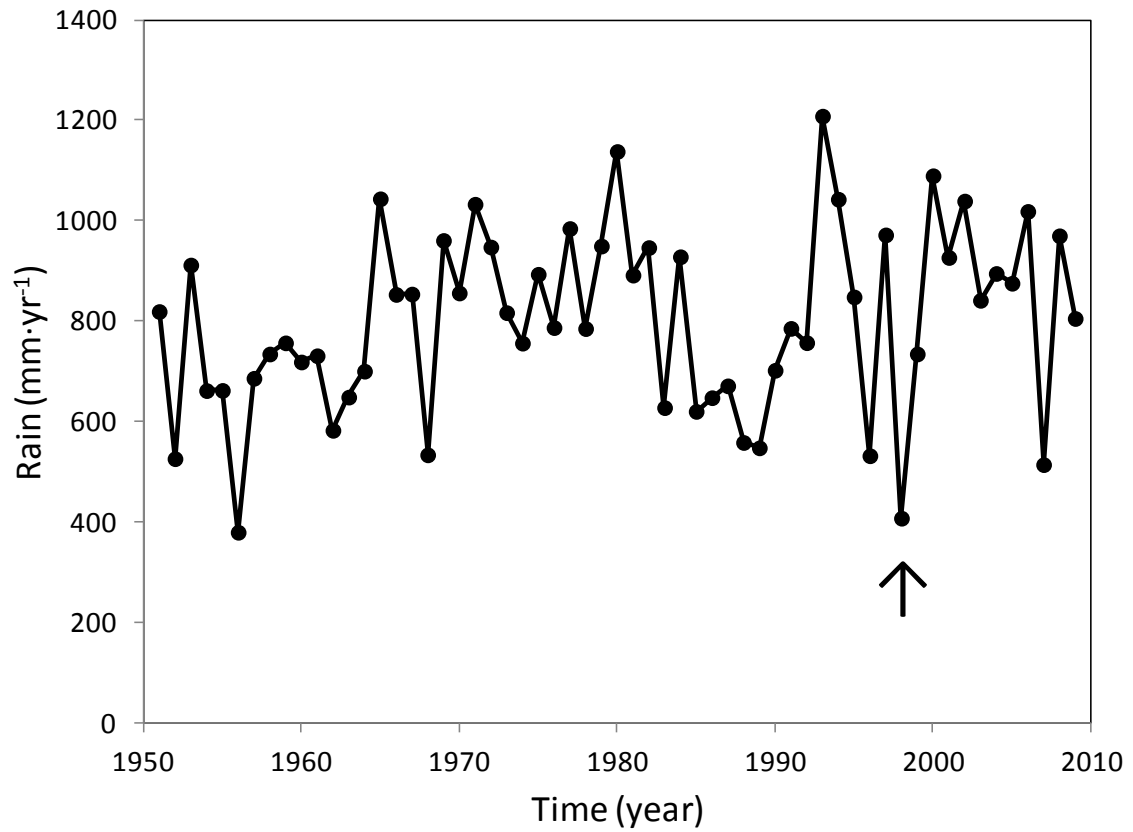


Figure S1: Total annual precipitation data corresponding to the period 1951-2009, measured at the Bariloche Airport meteorological station. An arrow indicates the 1998 data point. Source: Servicio Meteorológico Nacional, Argentina.

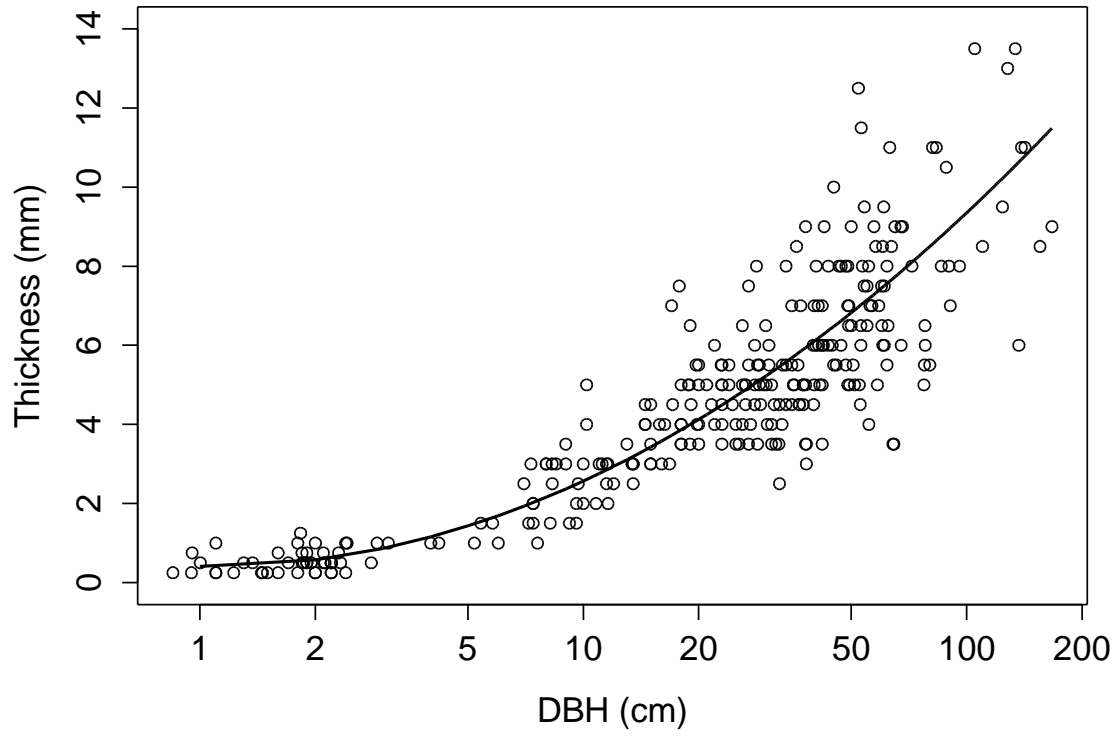


Figure S2: Observed bark thickness and fitted parabola (Eq. 1 in main text) as a function of $\log\text{-DBH}$.

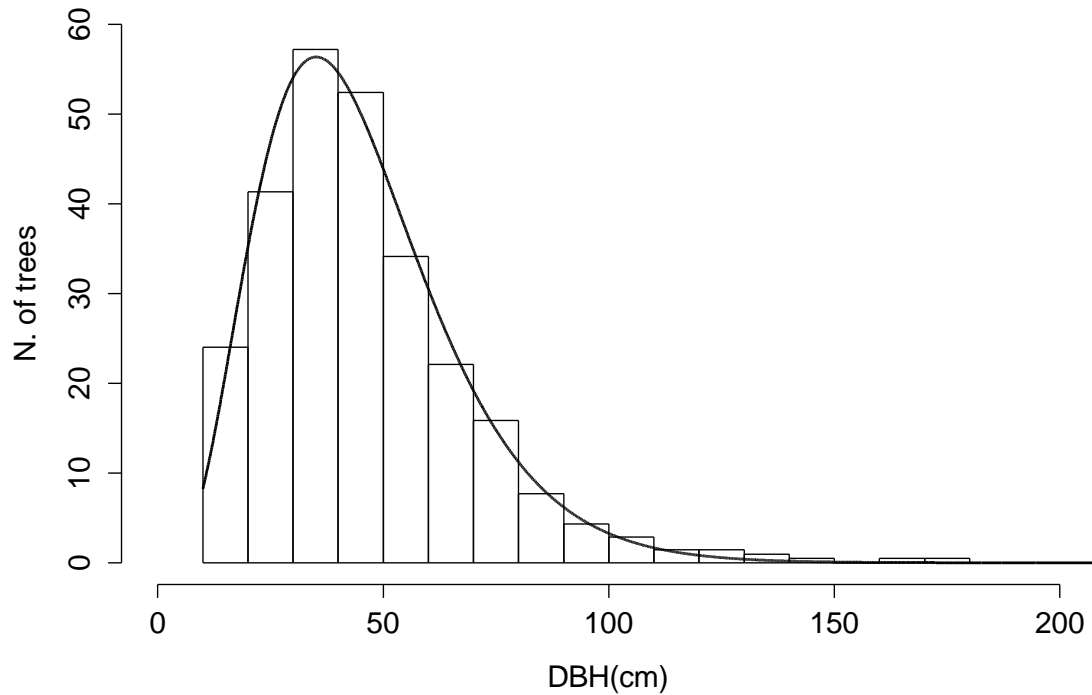


Figure S3: Illustration of the agreement between a histogram of the original distribution of tree *DBH* per ha from sampled plots (boxes) and a gamma curve whose parameters have been estimated from that dataset with the methods of moments (solid line, Eq. 2 in main text). Calculated parameters κ , θ and I (see text for description) took values of 4.6, 9.9 and 267.3, respectively. For comparison purposes only, we further scaled the gamma curve by multiplying by the bin size to match the histogram counts. Units are given in number of trees per hectare.

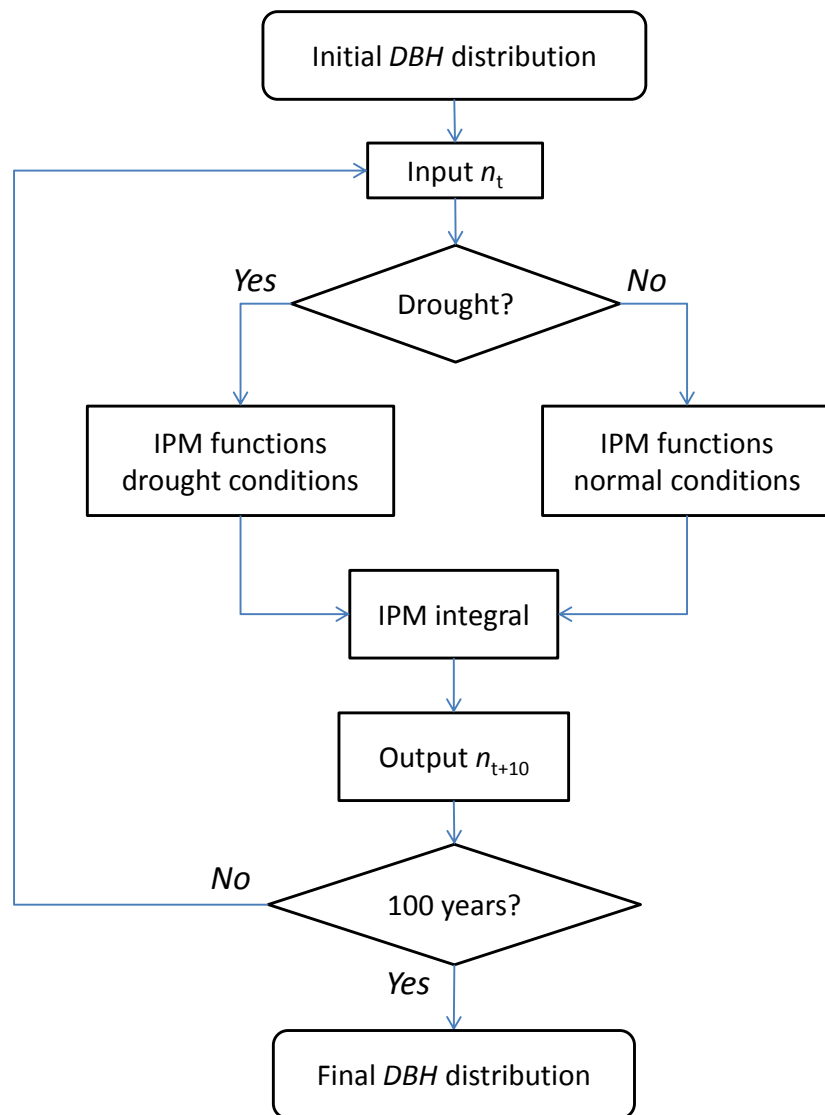


Figure S4: Flowchart diagram depicting the progress of one simulation run. The initial *DBH* distribution was chosen a priori from three θ, κ, I pair of values (see main text and Fig. 1). Decision over whether or not to assume drought conditions was taken by drawing a random number $z \in [0,1]$ such that $z < p_D$, as described in the manuscript. The complete 100-year simulation run sketched in this figure was then repeated 100 times to approximate all possible trajectories followed by each stand.