



Supplement of

Water use strategies of a young *Eucalyptus urophylla* forest in response to seasonal change of climatic factors in South China

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Figure S1. The mean of soil water content in response to rain fall in each month in the forest from June, 2012 to May, 2013, line refers to the exponential of the relationship (p<0.01).



Figure S2. Boundary analysis between photosynthetically active radiation (Q_0) and sap flow density (F_d) of the 15 trees, time lag was estimated with correlation coefficient method to improve the accuracy before the analysis was performed, the maximal F_d was obtained from the exponential fit of each trees (lines in the figure with different color, p<0.01)



Figure S3. (a) The sensitivity of stomatal conductance of tree individuals at each light level and SWC level to increasing vapor pressure deficit ($-dG_{Si}/dlnD$) as a function of the reference canopy stomatal conductance at D=1 kPa (G_{Sref}). The two axes represent the slope and intercept of the relationship $G_S = -mln(D)$ -b. Each line represents a least-square fit to the data at each light level, for which the symbol represents each tree ($-dG_S/dlnD$, and G_{Sref}). Bold line: full, least-square fit through the entire data that is not forced through the origin. (b) G_{Sref} of different individual related with radiation (Q_0), lines are the least square fit for each tree, Q_0 is the mean value of data within each light level. Only data at SWC=40~45% was showed in the figure.