Supporting Information for

Coordination of rooting, xylem, and stoma strategies explains the response of conifer forest stands to multi-year drought in the Southern Sierra Nevada of California

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Introduction

This file contains the additional figures that support the finding of this study.

Figures S1 a) monthly GPP and b) latent heat flux of full sensitivity analysis grouped by rooting depth



Figure S2. Mean hourly GPP and Latent Heat flux by month and year of five effective rooting depth scenarios: a) 8m, b) 6.5m, c) 5m, d) 3m, and e) 1m.

a) GPP and LH of 8m rooting depth



b) GPP and LH of 6.5m rooting depth



P50gs=P20x

c) GPP and LH of 5m rooting depth



d) GPP and LH of 3m rooting depth









Figure S3 A.) monthly mean stem fraction of conductance (SFCL, K/Kmax) of all cohorts and B.) monthly mean leaf water potential (LWP) of all cohorts

Figure S4 Seasonal variation of water content for selected layers



Figure S5. Relation between simulated day time leaf water potential (LWP) and absorbing root water potential (AWP)



Figure S6. Vulnerability curves for two xylem strategies shown in both absolute units (K) as pressure-conductance curve (solid lines) and relative units (K/K_{max}) as pressure-fraction of conductance (dashed lines). The red dot indicates the intersection point of the absolute pressure-conductance curve. On the right side of the point, efficient xylem has higher conductance at any given pressure but a lower fraction of conductance as compared to the safe xylem.



Figure S7. Estimated vulnerability curve of pine based on xylem vulnerability traits (P12, P50,P88) from TRY database

