PERSPECTIVES

Challenging the maximum rooting depth paradigm in grasslands and savannas

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Biogeographically, MRD increases as a function of mean annual precipitation, evaporative demand, length of the growing season and deep infiltration (Schenk & Jack-

from crown tissue at the above/belowground interface)

assuming a stochastic mean annual precipitation of 650 mm (Holdo 2013).

Next, we compared di erences in aboveground biomass produced when root distribution was altered versus increasing MRD (Fig. 3). Starting with a simple default profile with equal biomass allocation across 50 cm depth,

without changes in MRD (Fig. 3c) has a larger increase .3((Fig.)e

(Mommer et al. 2010) illustrate the complexity of below-ground competition and the potential of resource sharing among roots of varying species. Improving estimates of resource uptake will require more detailed work linking root traits to function in diverse communities as well as tracking the soil-zone specific rates of water flux along the soil–plant–atmosphere continuum (Zarebanadkouki, Kim & Carminati 2013).

Dynamic root traits and processes are likely key regulators of hydraulic redistribution (HR) in grass–shrub–tree systems (Neumann & Cardon 2012; Prieto, Armas

Neumann, R.B. & Cardon, Z.G. (2012) The magnitude of hydraulic redistribution by plant roots: a review and synthesis of empirical and modeling studies. New Phytologist, 194, 337–352.