Supplement

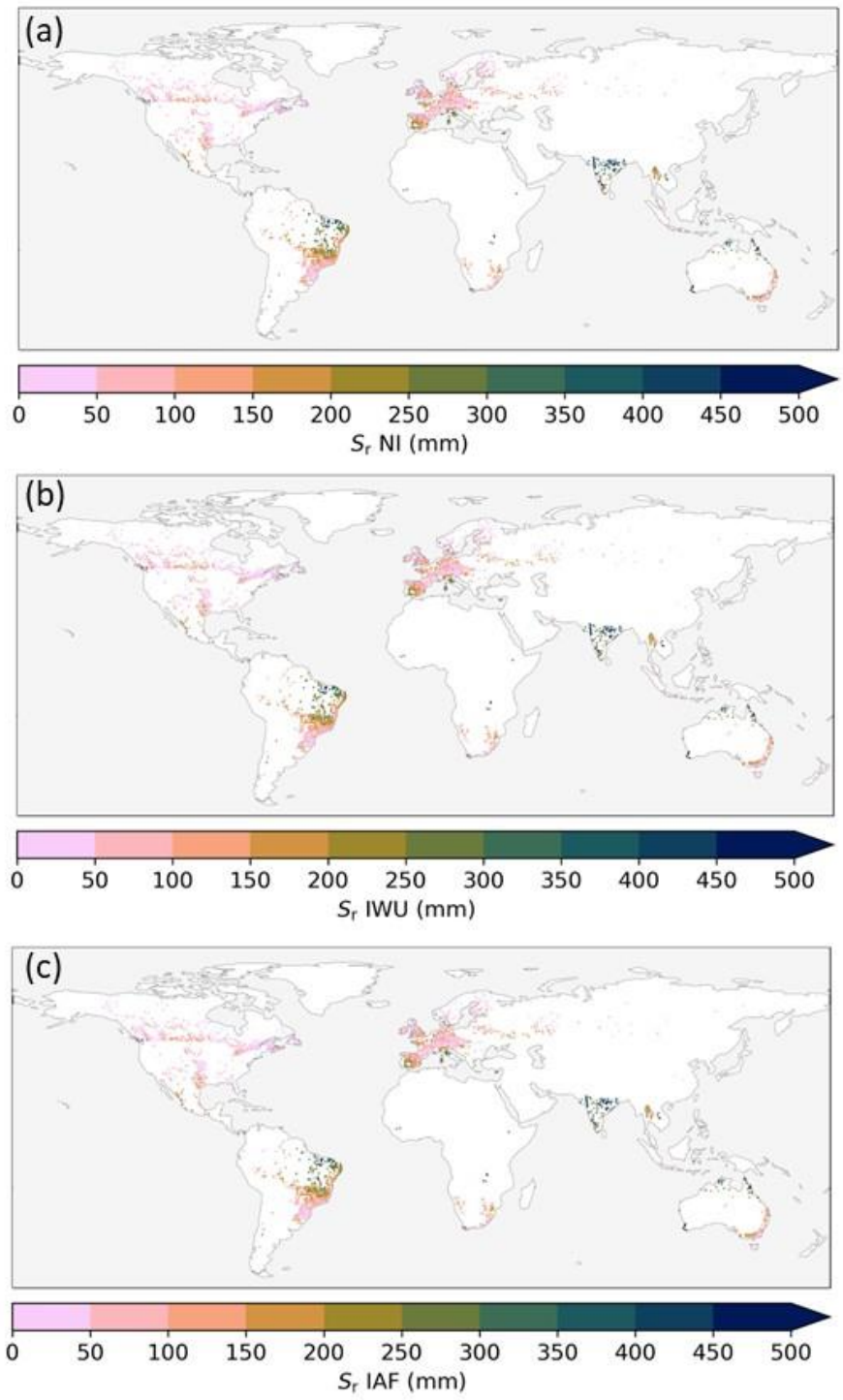

Figure S 1. Catchment S_r in mm for (a) the No Irrigation (NI) case, (b) the IWU irrigation case, and (c) the IAF irrigation case (Table 1), with dots representing catchment outlets.

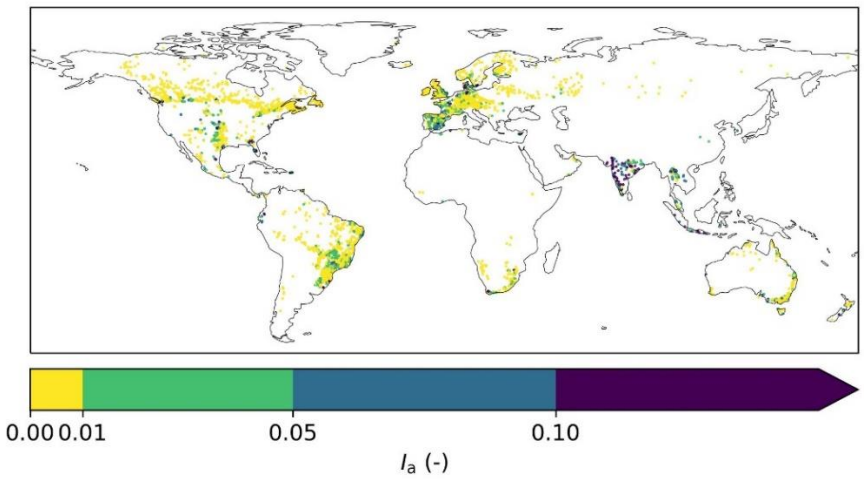

Figure S 2 Irrigated area fraction (I_a) stratified in the four groups used in Fig. 7 with dots representing the catchment outlets (Siebert et al., 2015)

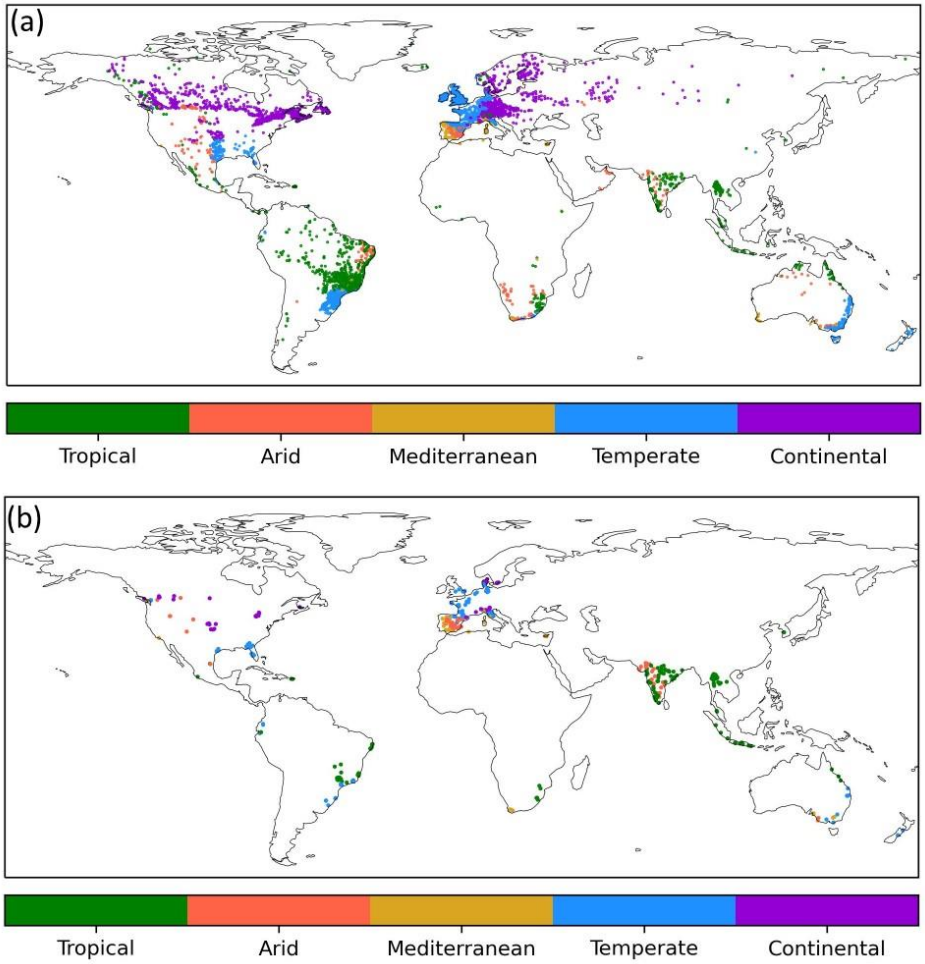

Figure S 3. Climate zone stratification used in Fig. 8b. (a) shows all study catchments and (b) catchments with I_α>0.05. The following classification based on Koppen-Geiger is used: tropical (Af, Am, Aw), arid (BWh, BWk, BSh, BSk), temperate dry summer (Cfa, Cfb, Cfc), Mediterranean(Csa, CSb), and continental (Dfa, Dfb, Dfc, Dfd)(Beck et al., 2018).