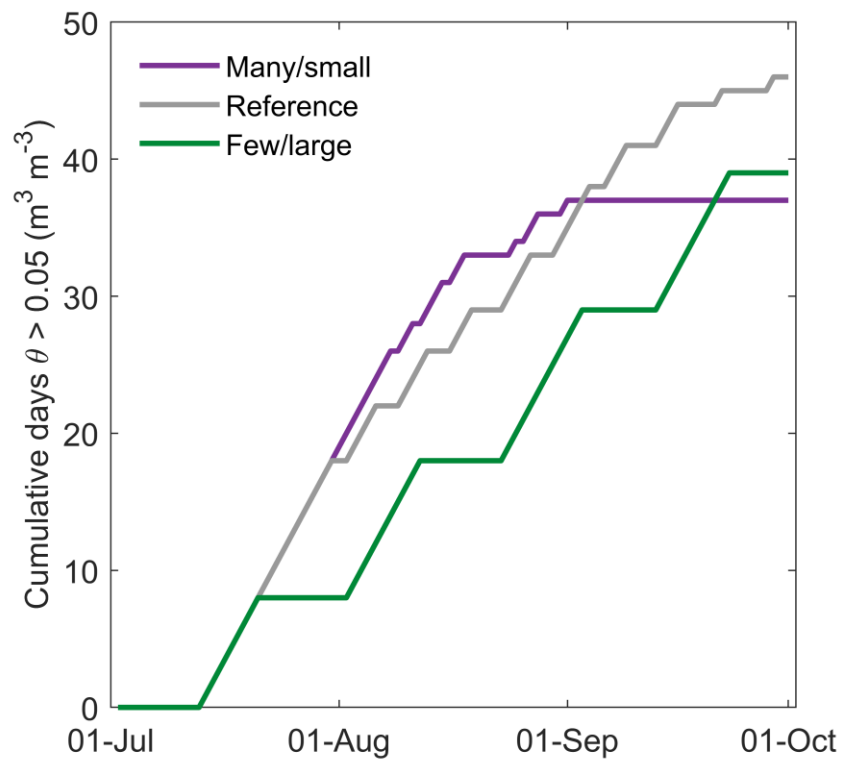
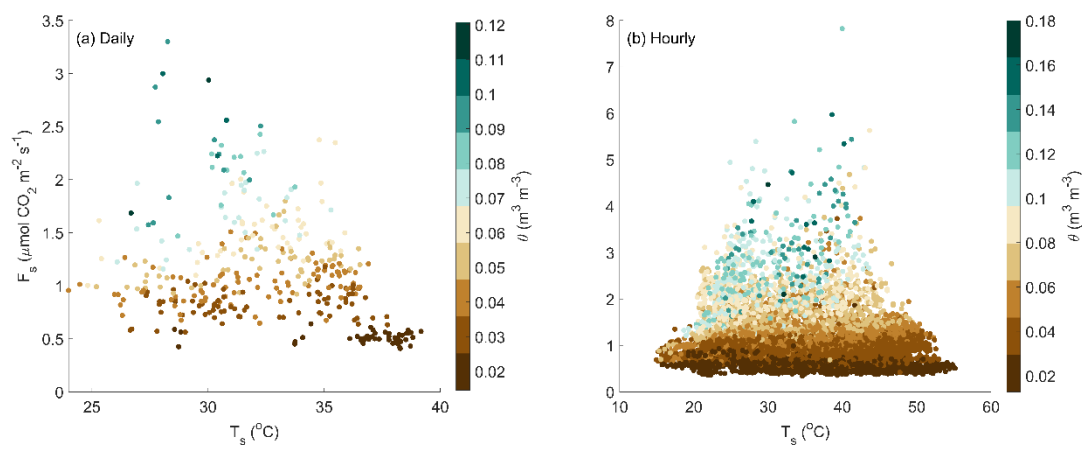


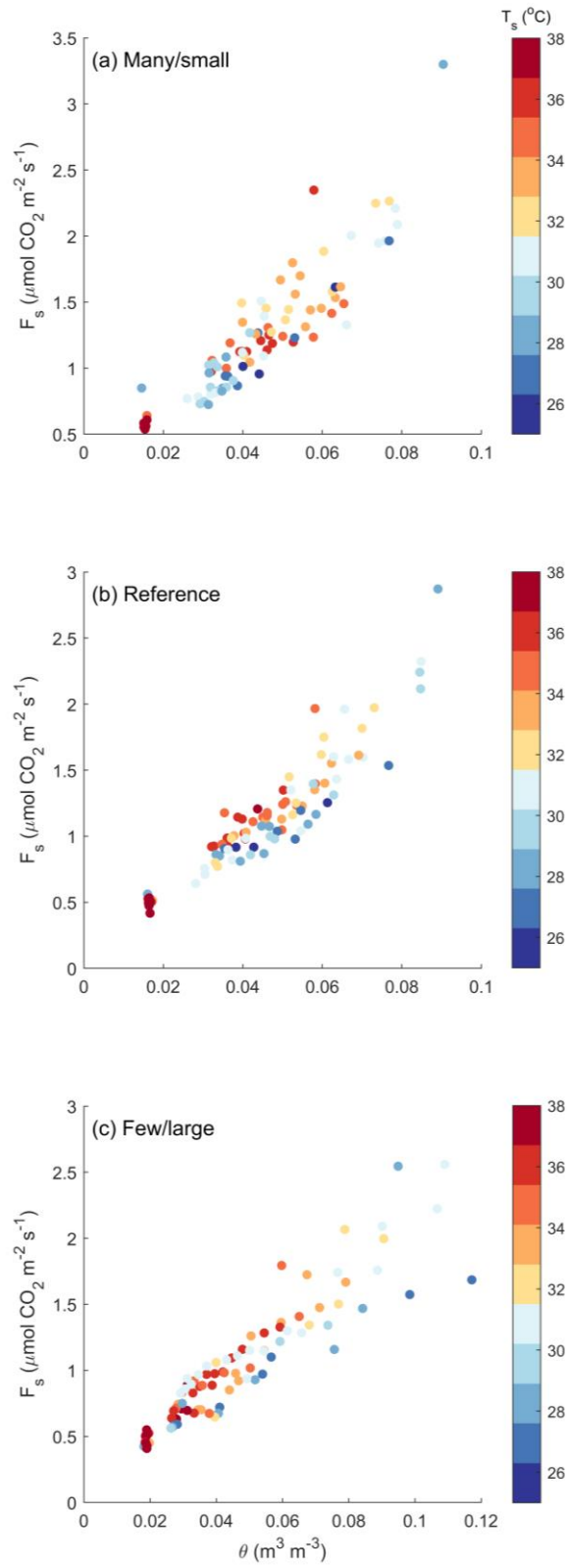
## Supplementary Material



**Supplementary Figure 1.** Cumulative days with high soil moisture conditions (defined here as  $\theta$  exceeding  $0.05 \text{ m}^3 \text{ m}^{-3}$ , the pooled mean of all daily  $\theta$  values, for the three levels of rainfall repackaging.



**Supplementary Figure 2.** Pooled response of daily (left) and hourly (right) soil CO<sub>2</sub> efflux ( $F_s$ ) to soil temperature ( $T_s$ ) colored by soil moisture ( $\theta$ ).



**Supplementary Figure 3.** Response of daily soil CO<sub>2</sub> efflux ( $F_s$ ) to soil moisture ( $\theta$ ) colored by soil temperature ( $T_s$ ) for the three levels of rainfall repackaging.