Reviewer comments are highlighted in boldface and italic. Our responses are in dark blue, while light blue texts are the revisions going to be made.

2. Figure 3: Please make the font larger. Additionally, the color contrast between model results and observations could be enhanced for clarity.

Thank you for your comments. The font of Figure 3 has been enlarged.

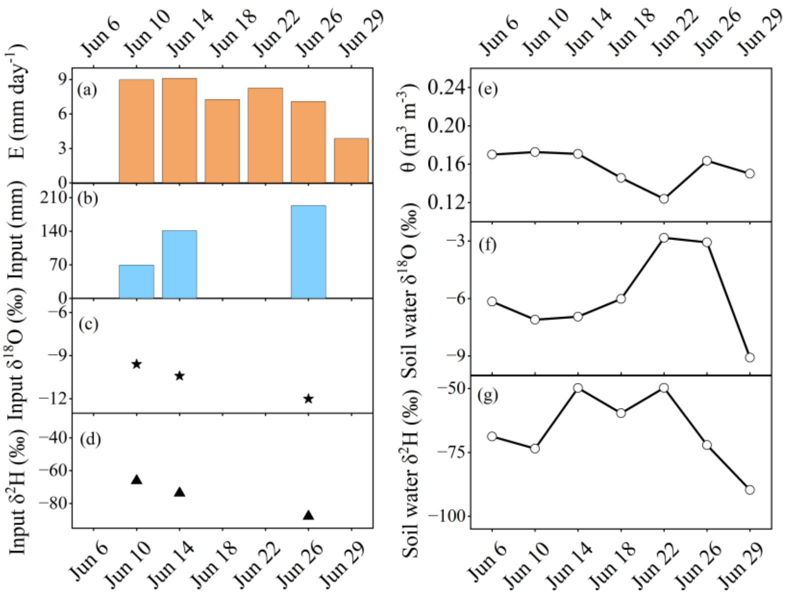

Figure 3. Measured evaporation (panel a), input water (precipitation + irrigation, panel b) and isotope signals (panels c and d), soil water contents (panel e, top 25 cm) and isotopic signals (panels f and g) from June 6 to June 29. Note that June 6 is the initial date.

Additionally, to enhance the clarity of Figure 6, colors have been revised:

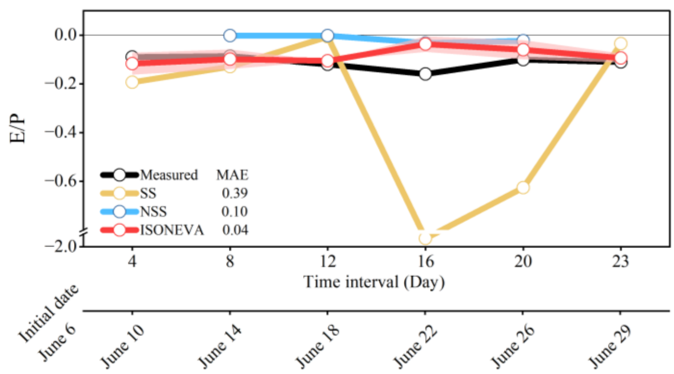

Figure 6. Estimated and measured E/P ratios from lysimeter data under different

temporal intervals. The shaded pink area represents the uncertainty of ISONEVA estimates. The date is shown on the lower x-axis. The light grey line is the horizontal line at E/P is 0.

4. Appendix A: The derivation of ISONEVA are pure equations. Adding explanations would be helpful for readers to understand.

Thank you for your comments. To help readers follow the derivation, we briefly summarize each step in Appendix A.

NSS section (A1 - A9): **"**Equation A1 expresses the water balance of the topsoil control volume under evaporation-only conditions, where the change in soil water storage ($\frac{\partial V}{\partial t}$) is equal to the evaporation flux E.

Equation A2 represents the corresponding isotope mass balance, where VR is the total mass of isotopes in the control volume and ER_E is the isotopic flux associated with evaporation.

By applying the chain rule, Equation A3 relates the change in soil isotopic ratio ($\frac{\partial R}{\partial t}$) to the water balance ($\frac{\partial V}{\partial t}$) and isotope balance ($\frac{\partial (VR)}{\partial t}$).

Rearranging terms yields Equation (A4), which describes the time evolution of soil isotopic composition as a function of the evaporation rate and the isotopic compositions of soil water and evaporated vapor.

Equation A5 rewrites $v\frac{\partial R}{\partial t}$ in relation to $\frac{\partial (\ln f)}{\partial t}$, where f is the ratio of final to initial soil water storage. Then, Equation A6 shows R as a function of $\ln f$, combining the water-storage change with isotopic enrichment processes.

Solving this first-order linear differential equation leads to Equation A7, which provides the analytical solution for the evolution of R.

Equations A8-A9 present the general solution to a linear differential equation of the form $\frac{\partial y}{\partial x} + p(x)y = q(x)$, which is used to derive Equation A7 from Equation A6.**"**

ISONEVA section (A10 - A17): "Equation A10 represents the water mass balance of the topsoil control volume, where changes in soil water storage ($\frac{\partial V}{\partial t}$) are determined by precipitation (P), evaporation (E), and percolation (Q).

Equation A11 describes the corresponding isotope mass balance, where VR is the total mass of isotopes stored in the control volume. The terms on the right-hand side represent isotopic inputs from precipitation (PR_p), isotopic enrichment during evaporation (ER_E), and isotopic losses through percolation (QR).

To obtain an equation for the evolution of soil water isotopic composition (R), Equations A10 and A11 are combined, this leads to Equations A12-A14, which express the temporal evolution of R in terms of water fluxes and their isotopic compositions.

Like NSS derivations, Equation A14 is rewritten in terms of the derivative of R with respect to $ln(f)$, this transformation yields Equation A15.

Finally, Equation A15 can be further simplified to A16, which is a first-order linear differential equation. It can be solved analytically using A9 and results in A17, which is the basis of the ISONEVA estimation."