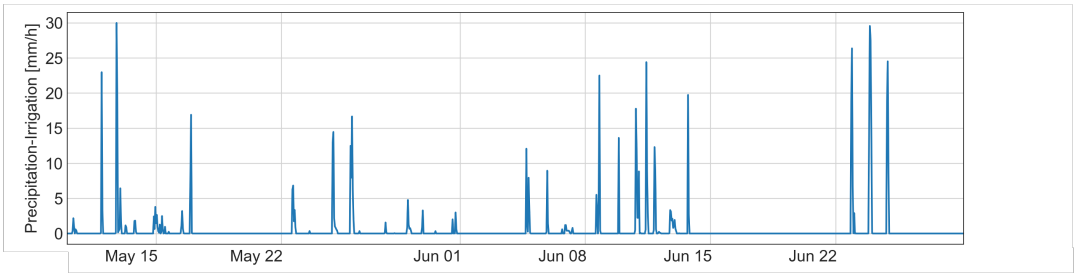
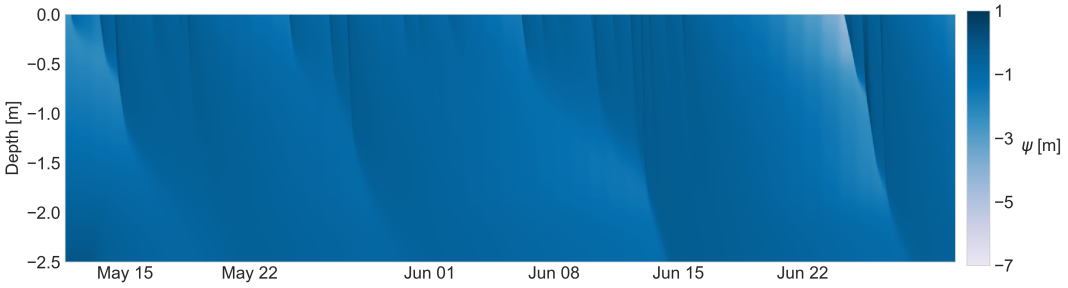
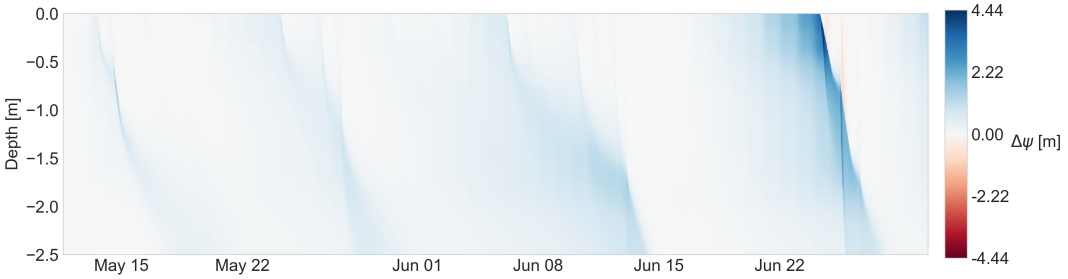


(a) Precipitation–irrigation input over time.



(b) Soil water potential behavior in the baseline simulation.



(c) Temporal evolution of the soil water potential difference along the soil profile, $\Delta\psi = \psi_R - \psi_{BSL}$, where ψ_R refers to the simulation with infiltration only, and ψ_{BSL} to the baseline simulationa.

Figure 12. C15 Comparison of soil water potential evolution under scenarios with and without evapotranspiration: Panel (a) shows the precipitation–irrigation input over time. Panel (b) depicts the soil water potential (ψ) in the baseline simulation, which includes both infiltration and evapotranspiration. The plot displays depth in meters, with a color scale representing ψ. C5-C32 The darker blue colors indicate increases in ψ resulting from rainfall events and their subsequent propagation over time, typically in a downward direction. As depth increases and water potential decreases, infiltration rates slow down due to reduced soil hydraulic conductivity. This phenomenon is visually represented by the decreasing intensity of the darker signatures and their rightward curvature with depth. Panel (c) illustrates the temporal evolution of the soil water potential difference, defined as $\Delta\psi = \psi_R - \psi_{BSL}$, where ψ_R refers to the simulation with infiltration only, and ψ_{BSL} to the baseline simulation. A diverging colormap centered at zero is used to represent $\Delta\psi$ values. Positive differences (blue) indicate higher ψ_R in the infiltration-only case, while negative differences (red) indicate lower ψ_R. These deviations primarily result from the absence of evapotranspiration in the infiltration-only simulation.