

### **Animation S1.**

Animation of the development of the saturation process in the hillslope. The left panel shows the transitioning of the different phases and on the right line graphs of relevant state and flux data are presented. The top right panel shows the rainfall and subsurface flow data for each 15-minute measurement interval starting an hour before the start of the rainfall event. The bottom right panel shows mass accumulation derived from i) load cell data, ii) spatial averaging of raw soil moisture data and iii) spatial averaging of soil moisture data with a cutoff of 39%.