Infiltration under Confined Air Conditions: Impact of Inclined Soil Surface

Supplementary material

Guy Mizrahi, Alex Furman, and Noam Weisbrod*


*Corresponding author (weisbrod@bgu.ac.il).

Pages: 2

Figures: 2
Supplementary information

The figures below provide qualitative support to the data presented in the main body of the manuscript. Figure SI-1 contains images taken during the experiments presented in the manuscript, while Figure SI-2 presents an independent, yet similar experiment.

Figure S1: surface images from column experiments; inclined surface (upper set) and flat surface (lower set). Blue line indicates the middle of the inclined surface. Panes A and B show continuous air flow at different times and pane C shows the air release terminals after water level dropped. Panes D and E show air release and cessation of air flow at successive times. Pane F shows that unlike the inclined surface, air release in the flat case can occur throughout the surface (compare for example pane D and F). Images were captured every minute by a camera fixed above the columns.

Figure S2: Helle-Shaw experiment showing air release only from the upper parts of the subsurface (High Zone) once the sand was flooded with water. Experiment was conducted in a similar way as column experiments were. That is, the Helle-Shaw cell was dry packed, and then covered with nylon sheet during filling of water, allowing instantaneous initiation of the of the experiment. Bottom and side boundary conditions were impermeable for both water and air.