

Aim of this study was to describe capillary water and vapor transport in shallow subsurface of Hrubá Skála sandstone in the Bohemian Paradise.

I have quantified permeability of Hrubá Skála sandstone for water vapor using “wet cup” method and also capillary water absorption of sandstone drill cores. I have found out general rules of evaporation and rate of evaporation from several sandstone outcrops in real microclimate. Important part of my work was to determine whether surface crust plays some role in studied parameters.

Based on my results, permeability of different types of sandstones for water vapor does not vary significantly and surface crust has no effect on rate of water vapor diffusion.

Rate of capillary water absorption is reduced by surface crust. Hrubá Skála sandstone is classified as medium or highly absorbing material.

I have proved that evaporation from porous medium can be approximated by exponential function. Rate of evaporation is strongly controlled by climatic conditions, especially by relative humidity.