



## **Evaluation of soil parameters in modelling surface fluxes in the Sahel**

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Mesoscale climate models have been coupled to land surface models in order to account for realistic representations of the Earth surface. A problem faced by the land surface models in the Sahel is the extreme horizontal heterogeneity of soil properties in the region, where measured data are scarce. Therefore, two different sets of soil parameters are compared in simulations with a one-dimensional soil-vegetation-atmosphere transfer model: general soil parameters (Clapp and Hornberger) on the one hand, and in situ measured soil parameters on the other hand. Furthermore, the effect of including a soil surface crust is investigated.

In order to evaluate model results, a 58 days covering data set describing the surface energy and water balance is gathered from the HAPEX-Sahel experiment. The model is able to reproduce the observed surface fluxes within instrumental error. Best model results are obtained with the general soil parameters in combination with a soil surface crust. These results show that the surface model produces satisfactory results when using general soil parameters, which are easy to implement compared to the highly variable actual soil properties.