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Characteristic of soil water content and its effect on wind erosion process observed in sand dune and gobi desert in the south of the Taklimakan Desert in spring in 2002 and 2003

M. Ishizuka (1), M. Mikami (2), Y. Yamada (3), F. Zeng (4) and W. Gao (4)

(1) Wakayama University, (2) Meteorological Research Institute, (3) Institute of Physical and Chemical Research, (4) Chinese Academy of Sciences

The purpose of this study is to understand the characteristics of soil water content in ground surface and their effects on wind erosion process in sand dune and gobi desert in the Taklimakan Desert. For this, a wind erosion process observation system using Sand Particle Counter (SPC) was newly developed to measure dust emission process. The results can be summarized as follows: (1) Saltation flux q at the gobi site was more than 10 times larger than that of the sand dune, (2) Height dependency of saltation particle size and number was found, (3) Saltation flux was particle size and soil moisture dependent, and (4) A simple relationship existed between q and wind speed u and threshold wind speed ut(ČÆ).