

Dear Mr. Zhang

This article is a supplement to the sediments transport on different aeolian surfaces. It focuses on dust events in Gobi area, and obtains the coefficient between Q and F by comparing measured data. The results provide support for the current dust research. After reading the manuscript, I look forward to your answers to the following questions:

(1) What is the basis for selecting the location of field experiment sites?

Response: The study regions located in the northern China, where had been experienced strong wind erosion and frequency dust storms. Meanwhile, recently government policy had been suggested that new energy will be built above gobi surface. for both of abovementioned reasons, we selected the study region to study Aeolian sediment emission and transport.

(2) Where do the vehicle traffic and animal trampling happen in the study area? How do you quantify these impacts in observations?

Response: During our previous field investigations, we found that some gobi surface had been disturbed by vehicle traffic, which caused by local people graze their animals, and during the railway and road building. Animal trampling is much smaller effect on gobi disturbance, so we did not consider.

For the total disturbed gobi surface, we defined as there are not gravel or crust coverage and all sublayer silt and clay exposed. For the partly disturbed gobi surface, we defined as about 50% land surface gravel or crust had been disturbed.

(3) What may cause the difference in grain-size distribution of transported aeolian sediment?

Response: The difference of grain-size distribution of transported Aeolian sediment should be controlled by 1) up wind available sediment supply, 2) land surface properties, 3) land surface disturbed or undisturbed. If there are rich upwind available sediment supply at the upwind and land surface is undisturbed, the transported Aeolian sediment should be coarser than limited and disturbed gobi surface.

Thank you very much for your comments.