



Two dune growth mechanisms in a landscape scale experiment

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The main objective of the landscape-scale experiment is to characterise and quantify the development of bedforms in a natural eolian environment using controlled initial and boundary conditions (Ping *et al.*, 2014). This is an original concept in geomorphology that seems particularly well suited to validating and quantifying the physical processes involved in landscape dynamics. Given the extreme conditions encountered in arid deserts and the time scales associated with dune formation, these in-situ experiments must combine high-resolution and long-term measurements. These challenges are being met in the Tengger Desert (Inner Mongolia, China). Here, we present the result of different experiments started in April 2014 and conducted until the end of 2017. Comparing the destabilisation of a flat sand bed to the development of an initial conical sand pile on a non erodible bed, we provide an unique set of data to analyse the coexistence of different dune growth mechanisms.

Bibliography

Ping L., C. Narteau, Z. Dong, Z. Zhang, S. Courrech du Pont, *Emergence of oblique dunes in a landscape-scale experiment*, Nature Geoscience, 7, 99-103 (2014).