

**The Dynamics and Environmental Context  
of Aeolian Sedimentary Systems**

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# The Dynamics and Environmental Context of Aeolian Sedimentary Systems

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# Contents

Preface	vii
PYE, K. Introduction: the nature and significance of aeolian sedimentary systems	1
<b>Aeolian mechanics and dune morphodynamics</b>	
MC EWAN, I. K. & WILLETTS, B. B. Sand transport by wind: a review of the current conceptual model	7
HARDISTY, J., ROUSE, H. L. & HART, S. Gain function analysis of sand transport in a turbulent air flow	17
BURKINSHAW, J. R., ILLENBERGER, W. K. & RUST, I. C. Wind-speed profiles over a reversing transverse dune	25
WIGGS, G. F. S. Desert dune dynamics and the evaluation of shear velocity: an integrated approach	37
<b>Desert dunefields</b>	
WINTLE, A. G. Luminescence dating of aeolian sands: an overview	49
EDWARDS, S. R. Luminescence dating of sand from the Kelso Dunes, California	59
RENDELL, H. M., YAIR, A. & TSOAR, H. Thermoluminescence dating of periods of sand movement and linear dune formation in the northern Negev, Israel	69
STOKES, S. & BREED, C. S. A chronostratigraphic re-evaluation of the Tusayan Dunes, Moenkopi Plateau and southern Ward Terrace, northeastern Arizona	75
LIVINGSTONE, I. & THOMAS, D. S. G. Modes of linear dune activity and their palaeo-environmental significance: an evaluation with reference to southern African examples	91
CRABAUGH, M. & KOCUREK, G. Entrada Sandstone: an example of a wet aeolian system	103
CHAKRABORTY, T. & CHAUDHURI, A. K. Fluvial–aeolian interactions in a Proterozoic alluvial plain: example from the Mancherai Quartzite, Sullavai Group, Pranhita-Godavari Valley, India	127
<b>Coastal dunefields</b>	
PSUTY, N. P. Foredune morphology and sediment budget, Perdido Key, Florida, USA	145
WAL, A. & MCMANUS, J. Wind regime and sand transport on a coastal beach–dune complex, Tentsmuir, eastern Scotland	159
CARTER, R. W. G. & WILSON, P. Aeolian processes and deposits in northwest Ireland	173
CROS, L. & SERRA, J. A complex dune system in Baix Empordà (Catalonia, Spain)	191
PYE, K. & NEAL, A. Late Holocene dune formation on the Sefton coast, northwest England	201
GARDNER, R. A. M. & MCLAREN, S. J. Progressive vadose diagenesis in late Quaternary aeolianite deposits?	219
MCLAREN, S. J. Use of cement types in the palaeoenvironmental interpretation of coastal aeolianite sequences	235

**Temperate and cold climate continental dunes**

- KOSTER, E. A., CASTEL, I. I. Y. & NAP, R. L. Genesis and sedimentary structures of late Holocene aeolian drift sands in northwest Europe 247
- SEPPÄLÄ, M. Climbing and falling sand dunes in Finnish Lapland 269

**Dust and loess**

- COUDÉ-GAUSSÉN, G. & ROGNON, P. Contrasting origin and character of Pleistocene and Holocene dust falls on the Canary Islands and southern Morocco: genetic and climatic significance 277
- LI, P-Y. & ZHOU, L-P. Occurrence and palaeoenvironmental implications of the Late Pleistocene loess along the eastern coasts of the Bohai Sea, China 293
- ROLPH, T. C., SHAW, J., DERBYSHIRE, E. & WANG JINGTAI The magnetic mineralogy of a loess section near Lanzhou, China 311
- Index 325

## Preface

This volume arises from a two-day international symposium held at the Geological Society of London on 22–23 October 1991. The meeting was convened by K. Pye of Reading University and sponsored jointly by the British Sedimentological Research Group and the British Geomorphological Research Group. It brought together approximately one hundred researchers with interests in aeolian processes and environments, both ancient and modern. The aim of the meeting was to provide an opportunity to discuss recent advances in understanding of the environmental controls on aeolian sediment transport processes, dune morphodynamics, and dunefield evolution. The selection of twenty-four papers included in this volume address a wide range of issues, ranging from short-term experimental studies of individual grain movement and grain-bed collisions during aeolian transport to long-term climatic, eustatic and tectonic controls on the development of sand seas. Consideration is given to warm continental desert dunefields, cold climate and temperate continental aeolian environments, coastal dunes, aeolian dust transport and loess formation.

Several of the papers report recent advances in the development of methods for dating late Quaternary aeolian deposits. These methods make it possible, for the first time, to rigorously test hypotheses which relate major phases of aeolian activity to changes in climate, sea-level, and anthropogenic disturbance. Thick sequences of aeolian sand, loess and palaeosols potentially provide some of the most complete and detailed evidence of the nature of environmental changes which have affected continental areas during the Quaternary and earlier geological periods. Similarly, dust deposits in ocean sediments can record important information about changes in continental surface conditions and global atmospheric processes. The papers in this volume indicate that much has been learned in the past decade about the relationships between climate, sea-level, aeolian transport and deposition, although it is not yet possible to claim a full understanding.

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*K. Pye*