

GEOG3048 Aeolian Processes and Geomorphic Modelling in Dryland Environments

Dr Jo Nield

What's this about?

This module will appeal to anyone who is interested in dryland environments. It introduces students to the fundamental concepts underpinning our understanding of aeolian (wind-blown) processes and form in desert areas, as well as to a range of measurement and geomorphic modelling methods, setting these within an environmental interpretation and management context.

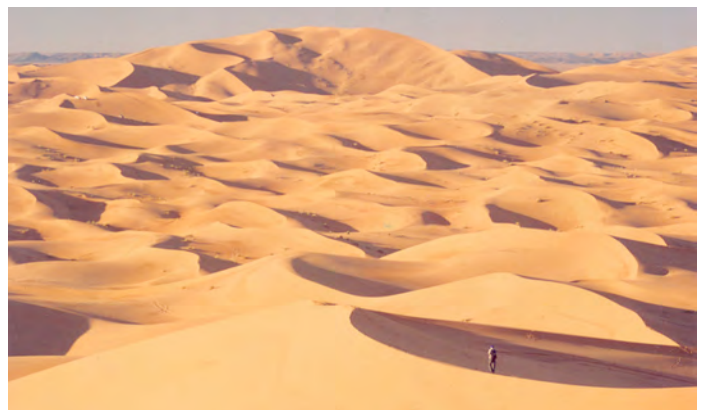
After introducing processes and landforms including sand dunes and dust transport, we focus on geomorphological modelling techniques, specifically self-organisation-based and cellular automaton models. We then link landscape interpretation and modelling techniques to address management issues and examine how aeolian landscapes change through time, their response to climate fluctuations, ways in which we can use ancient landscape records to further our understanding of modern processes, and how earth-based knowledge allows us to interpret aeolian landforms on other planetary bodies

Assessment

Students spend the term investigating a dune field of their choice (anywhere on Earth, Mars or Titan) which they use to develop research questions that can be tested using a computer simulation model. There is also a short answer exam at the end of the module. Sessions are a mix of lectures and computer workshops.

Employability

This module develops problem solving skills relevant across all job sectors along with dryland specific knowledge useful for jobs within environmental science and management.



The Student View

“Dr. Jo Nield is brilliant and always has me coming out of the lectures thinking!”

“This has been my favourite module to date. I think that may be partly due to it being a topic that is unlike any I have studied before.”

Anonymous feedback