



Climate Change Laboratory

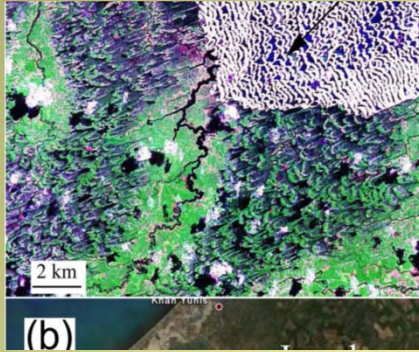
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The Swiss Institute for Desert Environmental and Energy Research



The past as the key to the future

Sand dune dynamics

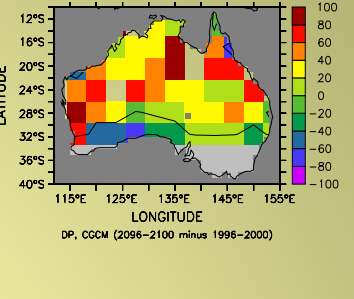
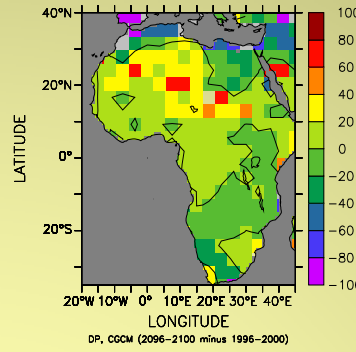
Coexistence of active and fixed dunes



Field experiments and models to study such observations

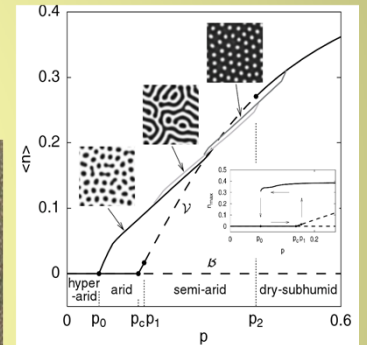
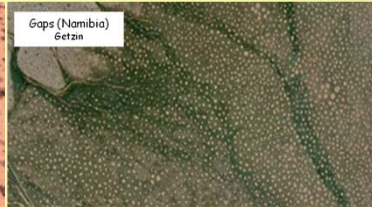
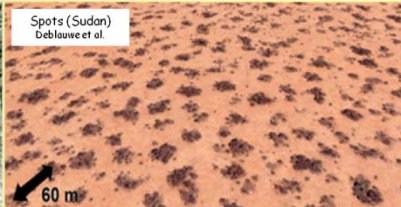
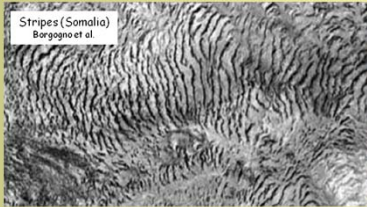


Estimating the future of dune fields



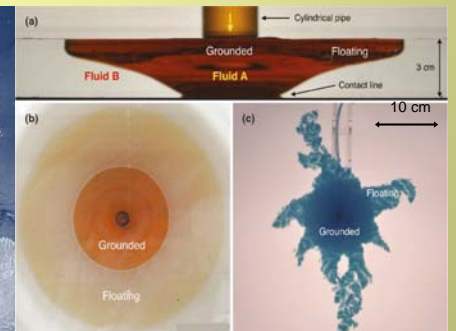
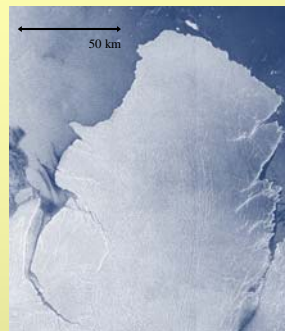
Response of arid-land vegetation pattern to climate change

A significant portion of Earth's terrestrial surface consists of drylands. Climate change may affect the ecosystems embedded in these regions. Models developed in our department allow quantitative understanding of the response of these systems to changes in climatic conditions and may be used to cope with desertification processes.



Antarctic Ice Sheets in the Laboratory

Antarctic ice sheets spread into the surrounding oceans and float as ice shelves. These floating shelves can fracture and potentially shatter, which may ultimately affect the stability of the ice sheets and lead to a catastrophic rise in sea level. We explore fundamental aspects of this problem using laboratory experiments.



Snowball Earth

Occurred at least twice between 750 to 630 Million years ago



In contrast to common belief that snowball ocean was stagnant we have found the snowball ocean is turbulent and active

