



## **Paleosurfaces separating dune generations of northern Fuerteventura**

Christopher-B. Roettig and Dominik Faust

TU Dresden, Inst. Geography, Dresden, Germany (christopher-bastian.roettig@tu-dresden.de)

On the Canary Islands soil formation in quaternary sediments such as dunes and colluvial layers is documented by many authors (Pomel et al., 1985; Coudé-Gaussen & Rognon, 1988; Bouab & Lamothe, 1995; Damnati et al., 1996; Menendez et al. 2007; von Suchodoletz et al. 2009; Faust et al., 2015). In different paleo dune fields of northern Fuerteventura red layers (paleosurfaces) separate several dune generations. The features of these layers were always linked to soil forming processes. Now, we have the indication that this conjecture is not valid any more. Analytical results support our assumption of relating these red layers mainly to aggrading dust deposits. The in situ soil forming processes are restricted to de- and recalcification processes and recrystallisation of iron. In extension to Kruse&Meyer (1970) we assume the imprint of CaCO<sub>3</sub>-coated primary iron (as ingredient of dust) which is leached after deposition and transform to hematite, contributing to the reddening of the layers, finally. Obviously, the formation of paleosurfaces depends on decreased sand supply. -Why did sand supply from the shallow shelf calm down and only dust reaches the island?

On Fuerteventura three driving forces are conceivable:

1. Changing wind directions.
2. Volcanic activity (cutting off dune fields from the sediments pathway).
3. Sea level changes (ruling the availability of sand originating from the shallow shelf).

These different perspectives of aggrading soils and of dune formation in the lower latitudes will enforce the discussion about the informative content and interpretability of aeolianite settings in general.