

**AAPG Annual Convention  
Salt Lake City, Utah  
May 11-14, 2003**

Carmen B.E. Krapf<sup>1</sup>, Harald Stollhofen<sup>2</sup> (1) University of Würzburg/Germany, Würzburg, Germany (2) RWTH Aachen/Germany, Aachen, Germany

**Modern Day Analogues of Fluvio-Aeolian Reservoir-Type Rocks from the Skeleton Coast Erg, Northwest Namibia: Controlling Factors, Variabilities and Resulting Processes**

Five ephemeral rivers systems at the Skeleton Coast in NW Namibia were chosen for the purposes of this study. They were selected due to their variety of interactions with the Skeleton Coast Erg, a prominent 165 km long and 6 to 20 km wide dune belt that parallels the Atlantic coastline 2 to 5 km inland. Our study of the Skeleton Coast ephemeral river systems and their interactions with the Skeleton Coast Erg is complementary in terms of controlling factors, variabilities and the resulting processes within the fluvio-aeolian systems.

The fluvio-aeolian interactions between the rivers and the dune field are controlled by the climate characteristics and the geology of the river catchment areas, the sediment load of the rivers, their depositional architecture, the longitudinal river profiles as well as the anatomy of the Skeleton Coast Erg. Resulting processes are (1) aeolian winnowing of fluvial derived sediments and transfer into and deposition in the erg; (2) dune erosion during break through resulting in hyperconcentrated flow and intra-erg mass flow deposits; (3) the development of extensive flood-reservoir basins (up to 15 x 4 km) caused by dune damming of the river during floods; (4) interdune flooding causing stacked mud-pond sequences; and (5) the termination of the erg by frequent river flow.

We consider such fluvio-aeolian interactions and their variable signatures in sedimentary records as exceptionally important for the understanding of fluvio-aeolian facies models, particularly for the interpretation of ancient sedimentary sequences from desert environments.