

# **The Lake Eyre Basin: A Modern Outcrop Reservoir Analogue of a Dryland Continental Interior Basin**

Krapf, Carmen B.E., Tobias Payenberg, and Simon Lang, The University of Adelaide, Adelaide, Australia

The Lake Eyre Basin (>1 Million km<sup>2</sup>) is a vast, internally-draining, low accommodation dryland fluvial-lacustrine basin, containing the World's fifth largest playa lake system (Lake Eyre). The northeastern rivers are characterised by extensive catchments and receive high precipitation from tropical cyclones in far-northern Australia. Rivers in the western part, on the other hand, have smaller catchments and comparatively little precipitation. These shorter western rivers terminate within Lake Eyre forming sandy terminal splay complexes. The larger northeastern rivers, however, dump most of their coarse-grained sediment load in large floodouts 400 km inland from the playa margin. As a result mainly fine-grained sediments are transported to Lake Eyre. The floodouts are up to 300 km long and 100 km wide and comprise anabranching rivers separated by extensive floodplains. The floodplain and the lake plain is dominated by a broad Quaternary longitudinal and transverse aeolian dune complex that represents a significant sand storage area, ready to be reworked into fluvial systems in a future wet phase.

The Lake Eyre Basin, Central Australia, has been widely used as a modern day reservoir analogue for many non-marine dryland basins (eg. North Sea and North African Triassic, South Caspian Pliocene) even though a basin-scale facies model has not been published to date. The high variability of depositional elements at various scales within the basin emphasizes the care that needs to be taken when using the Lake Eyre Basin as an analogue for both regional and field scale palaeogeographic reconstructions.