

Early Evolution of the Paran -Etendaka Flood Basalt Province: Inferences from the Huab Basin, NW Namibia.

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The Karoo-Etendeka deposits in the Huab Basin, NW Namibia, mark the eastern most extent of the Paran -Etendaka flood basalt province. The stratigraphy records evolution of the basin from Permo-Carboniferous times through to the onset of flood volcanism in the Lower Cretaceous. The superb 3-D exposure of the basal Etendeka units and Karoo deposits in NW Namibia, facilitate a detailed study of the sedimentary and volcanic architecture, and allow a great understanding of how this region evolved through time. The Karoo deposits persistently record episodes of extension providing early intra continental rift-fill successions. These early extensional events, coupled with thermal uplift, resulted in a time gap of up to 120 Ma, and a large amount of accommodation space directly prior to the deposition of the Etendeka group deposits in the Lower Cretaceous. Aeolian sand flooded into the accommodation space centred around the Huab Basin area from the much larger sand sea (erg) system developed on the South American side e.g. the Botucatu. This sand sea was active during the onset of flood volcanism resulting in up to 300 m of stratigraphy where the aeolian sands interleaved with lava flows. Volcanism started initially (~133 Ma) with small volume shield volcanoes erupting olivine phyric basalts of Tafelkop-type geochemistry. As flood volcanism progressed, more laterally extensive lava flows of Tafelberg-type geochemistry were erupted, covering up and preserving a shield volcanic feature centred around the Doros Igneous complex. Finally the large volume quartz latite (termed rhyolite in the Paran ) flows blanketed large parts of the Etendeka and reaching into the Paran .