

# **CENOZOIC CONTINENTAL INFILLING OF THE HIGH-ATLAS FORELAND BASINS: IMPLICATION FOR CLIMATIC AND STRUCTURAL EVOLUTION**

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Tectonic and sedimentary study of the tertiary continental (Haouz basin in North and Ouarzazat basin in the South) infilling of the forland basin reveals two stages of orogenic uplift of the High-Atlas Mountains. The first stage took place in the late Eocene-Oligocene after the retreat of the sea at the end of the Mid-Eocene. The second stage occurred in the Mio-Pliocene in the conjunction of the High-Atlas Mountains. The two events are separated by a period of tectonic inactivity materialised by the formation of lacustrine deposits and a carbonate hard pan with zonal encrustations. The Neogene of the northern side and the southern side of the High-Atlas consists of continental detritic formations lying in a discontinuous manner along the Atlas border with a thickness that decreases from this edge. Their facies shows significant lateral variations. The analysis of the facies and the sedimentary evolution reveal the existence of several types of deposit of debris flow, fluvial and sheet flood (Alluvial Fans and plain alluvial). The fine grained facies (sandstones, limestones, marls, gypsum and argillites) attributed to a lagunal-continental environment. The sequential evolution shows sedimentary sets organized in fining upward sequences whose continuation constitutes thickening and coarsening upward sequences: such a megasequential organisation during the build-up of alluvial fan is an indication of the increasing intensity of the tectonic movements in the erosion zone of watershed. The deposition of neogene formations is synorogenic in each basin, these deposits have their own organisation and their spatial distribution is controlled by the local morpho-structural framework, which is part of the High-Atlas chain. This corresponds to the infilling of the forland basins.