Abstract

Sedimentary basins and their fill are subjects of a primary interest within the geological community because of their economic importance, and especially their role as petroleum reservoirs. However, a thorough investigation into the basin fill structures also reveals important information about numerous factors acting upon the region. This thesis is designed to review the mechanisms driving the basin fill architecture of extensional and transtensional alluvial basins. The aim is to describe ways in which tectonics and climate influence the final basin fill, as well as to present concepts used in interpreting the stratigraphic record. The answer of continental sedimentary environments to tectonic forcing is intermittent and abrupt, whereas to the climate change it is more gradual. Tectonics is dominant on the macroscale, whereas on mesoscale both factors have equal roles. Both forcing mechanisms leave distinct traces within the sedimentary record, and a good knowledge of all the possible consequences is essential for a field study of any sedimentary basin.