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Facies Characterisation and Distribution of Paleogene Terminal Fan Deposits (Eastern Ebro Basin, Spain)

Two different Upper Eocene - Lower Oligocene Pyrenean and Catalanian fluvial fan-dominated systems fed the central lacustrine area of NE Ebro basin (Spain) from its north and southeast margins respectively. Successions of sheet-dominated sandstones hundreds of metres thick are interpreted as terminal-fan deposits in distal areas of the two alluvial systems. Sandstone-dominated sequences are related to mudflat (red mudstones) and shallow lacustrine deposits (evaporites, siltstones, marls and limestones). Extensive outcrop exposures allow the observation of some km-long, laterally continuous sequences where sandstone geometry can be measured. Differences in lithofacies, sedimentary processes, sequential arrangement and architecture are recognized between the deposits of the two distal systems. These differences are related to: (a) the slope of the alluvial depositional surface, (b) lithologies in the source area, (c) the catchment extension, and (d) the size of the alluvial system.