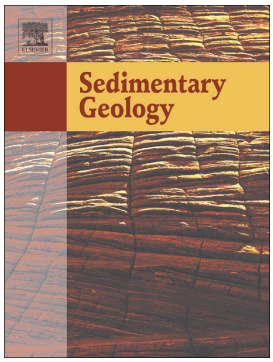

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ABSTRACT

Studies of distributive fluvial systems and their preserved successions envisage the distribution and orientation of architectural elements to be primarily controlled by channels radiating outward from fan apices, in many cases along an elongate basin margin. Conceptual models for such systems account for the downstream dynamics of the fluvial network, but with limited consideration of temporal geomorphic variations, resulting vertical organisation of architectural elements, or of the interplay of factors controlling system dynamics. To understand the external and internal architecture of distributive fluvial systems, and the factors that influence their sequential facies organisation, a sedimentary succession of the proximal portion of an Upper Cretaceous, semiarid, distributive fluvial system, located at the north-eastern margin of the Bauru Basin (Southeast Brazil), has been analysed in detail. Three fining- and thinning-upward fluvial sequences are identified, forming an interval