

Theme 5. Continental clastic depositional systems**General Session**

Oral presentation

Accumulation vs non-accumulation in a distributive fluvial system: what do fluvial–aeolian deposits reveal about cyclicity?

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The occurrence of fluvial–aeolian interactions has been reported both in ancient and recent sedimentary records. These interactions can be driven by allogenic and autogenic processes, manifesting several fluvial–aeolian interaction styles. Although previous works have shown many examples of fluvial–aeolian interactions and their depositional controlling factors, few have described the significance of these interactions within a Distributive Fluvial System (DFS) dynamic. Especially regarding the relationship of aeolian sedimentation associated with non-depositional indicators such as paleosols. Thus, this study aims to classify fluvial–aeolian interactions and the relationship between aeolian deposits and paleosols. Seeking a meaning for what causes the system to be prone to accumulation or not depending on the activity of the DFS. The classification scheme is demonstrated through reference examples from the Late Permian Rio do Rasto Formation (Morro Pelado Member), Paraná Basin, Southern Brazil. To accomplish this, 15 sedimentary logs were surveyed, comprising three boreholes (794.41 m) and 12 outcrops (176.04 m). In addition, six lateral panels were interpreted for architectural analysis, and six thin sections were examined to demonstrate fluvial–aeolian reworking. At the moment, 28 lithofacies and 15 architectural elements (four aeolian and 11 fluvial-related) were recognized. Four main fluvial–aeolian interaction anatomies were identified: (i) Water-table controlled interaction; (ii) Fluvial reworked aeolian deposits; (iii) Aeolian reworked fluvial deposits; (iv) Fluvial breaching of dunes and their reworking by catastrophic floodings. Fluvial–aeolian interactions occur on an autocyclic scale whereas paleosol's relationship with aeolian processes is yet to be determined.