

# Character of Deposition from Shallow- and Deep-Marine Suspended-Sediment-Laden Gravity Flows

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Abstract/Excerpt

Sediment-gravity flows are a special kind of density current in which the density contrast with the ambient fluid is maintained by suspended sediment. However, despite the first-order control of suspended sediment on the very existence of these flows little is known of the effect(s) of sediment concentration on the depositional record from these flows. For example, dating from the work of Bouma (1962), the idealized model of a turbidite lacks a stratal layer related to deposition from subaqueous unidirectional dunes (Fig. 1). Even more perplexing is the fact that in rare instances dune cross-stratification does occur where expected – sandwiched between upperstage plane bed and ripple cross-stratified sandstone. Another common but puzzling observation is that in many turbidites the b-division is several times thicker than the c-division, which in many cases is a scant one to a few sets thick, or even more problematic absent.