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Late Permian Tsunamites in Guryul Ravine (Kashmir, India) – revisited and rejected

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Recent claims for tsunami-related event beds induced by the Siberian Trap basalts in this section (Brookfield et al., 2013) have to be questioned. Identical storm generated carbonate beds occur not only during a short interval close to the Permian-Triassic (P-T) boundary but through a major part of the late Permian (Changhsingian) succession there – as low as 26 m below the so-called tsunami beds. Moreover, during our recent study in a closely neighbouring place called Mandakpal (less than 10 km to the southeast), no signs of tsunamites have been detected in time-correlative finegrained sediments. Based on sedimentary and trace fossil evidence we interpret the late Permian of Guryul as relatively shallow, neritic and delta-influenced. The so-called tsunamites are shelly-enriched discontinuous carbonate lenses fed downslope through local channels. Judging from the distinct facies change from the storm related "tsunamites" to thinly bedded mud turbidites above, the sudden deepening may be explained by local and still rift-related tectonics along the NIM (North-Indian Gondwana Margin) which led to episodic seismic induced sediment redeposition in the area of Guryul. Synsedimentary tectonic activity with tilting and eventual Horst and Graben structure building along the large NIM is indicated by margin inversion during the P-T boundary interval leading to sedimentary breaks and 20 times thinner, condensed limestone deposits far offshore from Guryul in Spiti (Krystyn et al., 2004) and Tibet (Orchard et al., 1994). Thus, local seismic activity seems to be a far more logic explanation of the Guryul "tsunamites" than the eruption of the Siberian Traps more than 6000 km away.

References

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