



Effects of the Tibetan plateau collapse in northern Burma

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The gravitational collapse driven crustal flow of the Eastern Tibetan Plateau is well constrained from its central part to the East Himalaya syntaxis. In this area GPS and the tectonic constraints both indicate a sudden southward vergency of this flow toward the core of the Sunda block in Indochina where it dies out progressively.

On the basis of numerous data collected onshore and offshore Myanmar and Bangladesh we question the effects of this crustal flow on the NS trending Sagaing fault, and the Indo Burmese wedge.

Northern Burma and southern Bangladesh are characterised by WSW verging thrusts and folds active since 10 Ma extending from the Indo Burmese accretionary wedge to the Central Myanmar basins into the east. Both are truncated by the northern extension of the dextral Sagaing Fault system. Eastwards largely distributed metamorphic rocks marked by a dominant N 45°E trending Neogene metamorphic lineation of the Mogok belt are bounded southwards by NE-SW trending left lateral faults.

It is clear for us the Eastern Tibetan crustal flow extends east of the Sagaing Fault but is truncated by the Sagaing Fault.

However the trend of this fault (NS in southern Burma and N 30°E into the north) is significantly deflected westwards as the Red River Fault northeastwards.

We suggest this fault virgation is related to the cumulate strain of the Tibetan Plateau collapse against the lithospheric Sagaing Fault.

This is probably facilitated by the limited free border subduction zone present in the northern Bengal basin. We still question if the fast growth of this wedge since 2Ma is controlled by the crustal flow still present at depth along the subduction buttress.