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Middle Miocene slides and slumps involving the calc-alkaline felsic volcaniclastic deposits in the north western part of Romania

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Large volcanic explosive eruptions of calc-alkaline felsic magmas developed during Middle Miocene in the southern part of Gutai Mts. and Maramures Basin, north-western part of Romania. Thick sequence of caldera related ignimbrites and their re-worked counterparts had been emplaced. Post-caldera tectonic events (Fülöp, 2002, 2003), triggered slides and slumps of reworked volcaniclastics interlayered with mud-stones.

In the south-western corner of Gutai Mts., intracaldera ignimbrites are overlain by deep water intrabasinal mudstones and unconform 30 m thick reworked volcaniclastic sequence. At the base of this sequence, breccias composed of tuffaceous sandstone blocks in a internally deformed mudstone matrix are found. Above them, massive tuffaceous sandstones interlayered with mudstones form most of the sequence. The limits of the sequence are sharp and angular. Inside the sequence, soft sediment de-formations are frequent, suggesting channelized hydroplastic flows. These features suggest an intrabasinal mass movement of a sequence of semi-solid to soft sediments as large slides or slumps.

In the Maramures Basin, tens of meters thick deposits composed of resedimented pumice rich mass flows and fallout tuffs are overlain by mudstones incorporating large blocks of tuffaceous sandstones. This basal monolithic breccia, with no internal de-formations, had been emplaced from a debris flow. An unconform 20 m thick succes-sion composed of alternations of massive sandstones and finely interlayered laminated sandstones and mudstones follows. The massive tuffaceous sandstones contain soft mud clasts and show soft sediment deformations suggesting channelized resedimented

fluidized mass flow deposits. The rithmic alternations of finely grained sandstones and mudstones preserving plant remnants on lamination show strong soft sediment deformations suggesting the dynamic interaction of remobilized semi-solid overbank deposits.

The pyroclastic deposition had been followed by a large debris flow and by the intrabasinal slide or slump of both channel and overbank tuffaceous deposits, a mass movement triggered probably by the active post-volcanic tectonics.

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