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# Depositional settings of gravity-flow deposits on the western Algerian margin

P. Giresse (1), H. Pauc (1), B. Savoye (2), G. Dan (2), J. Déverchère (3), K. Yelles (4), **V. Gaullier** (1) and the MARADJA Shipboard Party

(1) LEGEM, University of Perpignan, France, (2) Ifremer, Brest, France, (3) Domaines Océaniques, UMR 6538, University of Brest, France, (4) C.R.A.A.G., Bouzareah, Algiers, Algeria

Seven piston core retrieved from the Algerian margin from Oran to 80 km east of Algiers have been investigated for identify sedimentary instabilities. The 5 records located at the foot of the slope indicate a decreasing frequency of turbidite sequence from the transgressive system to high stand system inducing lowest off-shelf sediment fluxes during the last highstand episode. There is an approximately log-normal frequency distribution of bed thickness that increases for larger grain-size class, but this relationship is frequently altered by truncation of the top of the turbidite sequence. Only one debris-flow was identified lower downslope of the submarine valley of Sebaou and Isser Rivers. It is a 230 cm-thick accumulation forming the upper part of the core overlain by a 6 cm-thick veneer implying a post-depositional interval of ˜ 100-150 years. It is suggested that this debris-flow was linked to the major 1891 earthquake located at Gouraya. In the deep basin, the 2 records indicate that turbidite sequences are both thicker and more complete and are continuously observed through the entire section. However, the emplacement frequency decreases within the high stand system tract. Here, it is suggested that the frequency of the gravity flow was not controlled mainly by eustatic changes, but might contain too components of a seismic-forced variation. These deep sites indicate a near permanent accumulation function of inputs from various sources. The frequent occurrences of various markers (coastal foraminifers, glaucony) reworked from the last low-stand tract within hemipelagic deposits demonstrate a quasi-permanent down-slope sediment transport by density cascading; this process may develop when the water mass above is submitted to strong season period imbalance.