Geophysical Research Abstracts, Vol. 10, EGU2008-A-06146, 2008 SRef-ID: 1607-7962/gra/EGU2008-A-06146 EGU General Assembly 2008 © Author(s) 2008



Vertical movements and recent sedimentary processes on the Makran accretionary prism off Pakistan

N. Mouchot (1), S. Lallemant (1), L. Loncke (2), P. Leturmy (1), G. Mahieux (2), F. Chanier (3), N. Ellouz (4)

(1) Université de Cergy-Pontoise, UMR 7072, Cergy, France, (2) Université de Picardie Jules Verne, UMR 8157, Amiens, France, (3) Université de Lille I, UMR 8157, Lille, France, (4) Institut Français du Pétrole, Rueil-Malmaison, France (nicolas.mouchot@u-cergy.fr)

During fall 2004, geophysical data were collected from the offshore part of Makran accretionary prism off Pakistan onboard R/V Marion Dufresne, in order to constrain the structure and recent sedimentary processes active on the margin.

As a main result of morphostructural and echo-facies analysis, we show that although the margin morphology is primarily controlled by compressional deformation, there is a very important imprint by erosional processes which reshape the prism. Numerous slope failures occur on the anticlinal ridges as well as along the path of large structurally controlled canyons which cut off the prism. As revealed by backscattered imagery, canyon activity is not homogeneous along the margin and seems to be related to the respective sedimentary load of onshore rivers. In the case of active canyons we interpret large failures as a consequence of recent local uplift in the vicinity of the active thrust faults which modify the equilibrium profiles of canyons. Coarse-grained materials related to sub-marine and continental erosion of the prism flow through canyons and reach the smooth abyssal plain, where sediment wave field deposits are generated. Finally, our sea-floor echo-character map shows that the main sedimentary transit occurs from east to west in the abyssal plain.