



New evidences for recent uplift, thrusting and folding offshore easternmost Algeria

A. Kherroubi (1), J. Déverchère (2), A.K. Yelles (1), B. Mercier de Lépinay (3), A. Domzig (2), A. Cattaneo (4), R. Bracène (5), D. Graindorge (2), V. Gaullier (6)

(1) C.R.A.A.G., Algiers, Algeria, (2) UBO-IUEM-CNRS Domaines Océaniques, Plouzané, France, (3) Géosciences Azur, CNRS-UNSA, Nice, France, (4) Ifremer, Centre de Brest, Plouzané, France, (5) SONATRACH Exploration, Boumerdès, Algeria, (6) LEGEM, Université Perpignan, France (aziz_kherroubi@yahoo.fr)

Northern Algeria experienced in the past several large earthquakes. In contrast to western and central Algeria, the eastern part is characterized by moderate and diffuse instrumental and historical seismicity. In this study, we present the first detailed investigations of the morphology and shallow structures found off Annaba using high-resolution swath bathymetry and seismics acquired during the MARADJA2/SAMRA cruise at the end of 2005. The area off Annaba has the unusual peculiarity to present a wide, gently dipping shelf. Using swath data, 12 large sections and numerous chirp data, we map a large perched basin at the foot of the margin: it appears to represent the backlimb of a wide Quaternary fold limited oceanward by a fresh scarp which clearly offsets the sea bottom. An overlapping, right-stepping scarp extends further offshore. The overall length of the structure exceeds 80 km and is suspected to be responsible for $M \sim 7$ events. The fact that no historical earthquakes are reported in the area suggests that recurrence intervals are larger than historical record, which agrees with slow slip rates expected from cumulative deformation observed on growth strata. We propose to interpret this activity as a recent increase of the tectonic activity which tends to focus at the foot of the margin, as found in many places along northern Africa. Indeed, this place may be the one where the present-day convergence between the African and European plates can be better accounted for.