



## **Characterization of earthquake-induced landslides from swath bathymetry, sediment cores and high resolution side-scan sonar images (Algiers area, Algerian margin, SW Mediterranean)**

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Recent works, realized after the Boumerdes earthquake (21/05/2003), highlighted the active nature of the Algiers area. Three offshore surveys took place offshore Algiers, MARADJA (Autumn 2003), PRISMA (May 2004) and MARADJA 2 (Autumn 2005). The main goals of these surveys were to understand the origin of the earthquake and to study the impact of this event on seafloor morphology. Submarine landslides and turbidity currents generated by the Boumerdes earthquake induced the rupture of several submarine cables over more than 150 km long area.

A variety of techniques were used to realize this study, such as swath bathymetry, 2D very-high resolution seismic profiles and high-resolution deep-towed side scan sonar (SAR, système acoustique remorqué). Additionally, sediment cores completed the dataset.

Sediment instability and the resulting downslope sediment movement caused numerous mass transport complexes to accumulate offshore Algiers. Very-high resolution reflection sonar images and multibeam data show evidences of fresh slide scarps, glided blocks on the Algerian slopes. Some of the observed slides have been surveyed in detail using the tools mentioned previously. We present here sliding areas identified on the continental slope and deep curved shaped escarpments. Five sediment cores

were collected on the continental slope around one of this slide in order to investigate the sediment outside and inside the slide area. A curved shape escarpment located at around 25-35 km from the coastline, offshore Dellys town is affected by numerous sliding features. A third zoom-in is represented by other curved escarpment located between salt diapirs, at around -2550 m depth is also significantly affected by sliding features.

The present study showed the presence of numerous slides all over the study area, their size and shape and the possible relationship between the slides and the active tectonics.