

# SEISMOLOGICAL AND SEISMIC REFLECTION EVIDENCE FOR NEW OPENING BASIN IN THE EASTERN ALBORAN BASIN

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The seismic and seismological study, carried out on the Northern Moroccan margin, allowed browsing new details about the regional geological structures and their functioning. For this, we used 1000km industrial seismic reflection profiles grid combined to signal processing of 4 years recording of seismological data. Indeed, many projects were carried out (e.g. topo-Iberia project by ICTJA CSIC (Spain) and Picasso project by IRIS – Oregon University, USA). Thus, 59 broadband stations were deployed in total. PICASSO stations were equipped with Guralp CMG 3T sensors and Quanterra 330 digitizers, however Topo-Iberia stations have Nanometrics Trilium 120P sensors and Taurus digitizers, with records with a sample rate of 100 sample/sec. hence, we elaborated a high-resolution depth model and a global tectonic sketch for the South Alboran Basin. The influence of recent tectonic activity is manifested by normal and strike-slip faults, trending mainly N070° and N125°. In this segment, the Nekor strike-slip fault is probably connected to a secondary major fault system that changes direction from N30° to N70°, and changing behavior to left-lateral strike-slip fault with normal component. Analysis of local seismic activity recorded from 1990 to 2014 with moderate magnitudes activity shows alignments in clear superposition with the detected active faults in seismic reflection lines.

## Biography

Ghizlane is an Engineer geologist from 2013 and is completing her last year in PhD at the age of 28 years at the Scientific Institute in Rabat. Ghizlane works on enhancing her skills at linking seismology and exploration geophysics to active tectonics, and she participated to international offshore cruises that aim to understand the deep structures in Central Atlantic (Canarias Volcanic complexe) and the Alboran Sea. Ghizlane has also worked for more that two years on environmental science projects with the current environmental minister of Morocco, and is participating in preparing for the COP22 that will be held in Marrakesh on October, 2016.

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