Record of relative sea level rise on the Southern Adriatic Shelf

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A study carried out on 3.5 kHz Subbottom Profiles (SBP) highlights the fine stratigraphic architecture of the Southern Adriatic shelf. The area investigated is the only part of the broad and shallow Adriatic Sea where the shelf is facing a slope that goes to over 1000 m depth.

After a phase of margin outbuilding, marked by prodrading slope clinoforms, terminated by exposure and erosion over large part of the shelfal area, the sediments were mainly stored onto the shelf due to the ensuing relative sea level (RSL) rise.

The stratigraphic record of this RSL rise is well documented in the SBP where it appears as a set of thin, roughly tabular, units stacked one on top of the other and progressively stepping landward. Each of these units is about 20 to 40 m thick and is bounded by erosional unconformities. The internal configuration displays oblique and sigmoidal reflections downlapping onto the lower boundary and abruptly truncated by the upper unconformity. Rapid lateral changes in acoustic facies and local erosions on the upper part of the foresets suggests that these units originated during a RSL fall that, however, never reached the shelf edge.

Given the overall retrogradational stacking pattern of the units, these episodes of RSL fall appear to punctuate a general trend of RSL rise. It is noteworthy that sediments deposited mainly, if not only, during these pulses of RSL falls.

Microseismic Investigations in the western Mediterranean Sea.

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During autumn 1991 a team of German, Spanish and Marocco scientists investigated on/offshore microseismic activity in the Alboran Sea, in the Gibraltar Strait and adjacent onshore regions (Fig. 1). This project was a joint venture involving the Institut für Geophysik, Universität Hamburg (FRG), who provided 40 seismic landstations (LOBS), 15 ocean-bottom-seismographs (OBS) and the german research vessel RV - VALDIVIA, the Centre National de Recherche, Marocco, the SNED, Marocco, the Instituto Geografico Nacional, Spain and the SECEG-SA, Spain.

Aim of the experiment was to record and locate microearthquakes, and, by correlating the seismic data with the tectonic model, to locate areas of high seismic risk and active deformations, also to define the driving forces behind deformations.

Taking the new crustal models, as resulted from the interpretation of our wide-angle reflection and refraction seismic profiles, which were an additional part of the investigations, and the method proposed by SHAPIRA (1983), the p-wave arrivals and their orientation will be used to calculate hypocentres and their times of origin.

First results will present, the tectonic implication will be discuss and the on/offshore seismic activity, its intensity and frequency will be shown.

REFERENCES

SHAPIRA A., 1983. - A guide for using program LME-83. *IPRG Rept.* (Israel) ZI/567/79-(16)

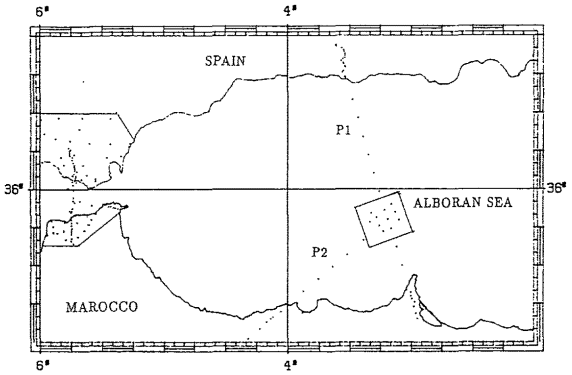

Fig. 1 : Location map of the on/offshore microseismic areas and the OBS/LOBS positions.