



## **Linkage Between Gas Leakage and Deep Tectonic Features in the Jabuka Trough (Central Adriatic Sea).**

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During the summer of 2005, the R/V OGS Explora acquired several tracklines of sub bottom profiler (CHIRP) and multibeam in the Jabuka Trough (Middle Adriatic Depression), elongated in a WSW-ENE direction, from Sibenik (Croatia) to Pescara (Italy).

The Jabuka Trough, represents a morphological feature orthogonal to the main tectonic (Apennine and Dinaric external fronts) and lithologic (eastern margin of the Adriatic Carbonate Platform) structures present along and around the basin. While the northern margin of this trough seems to be correlated to the northern Adriatic coast-line during the marine regression of the last glaciation and it is characterized by sedimentary deposition of Pleistocene age, its southern margin is characterized by seismogenetic fault systems and halocynetic structures, both highlighted by seismic profiles. Furthermore some important diapiric structures deform the sedimentary sequence on the Italian and mainly on the Croatian offshore (for example the Jabuka Island).

The correlation between the shallow morphology and the deep tectonic features using recently acquired (CHIRP and multibeam) or unpublished (deep seismic profile) geophysical data, provide evidences of features characterized by pockmark alignments. These gas-seepages are mainly distributed on seismically active areas and joined to the presence of gas (methane) reservoirs in the Plio-Pleistocene sedimentary sequences of the basin. So it can be a particularly interesting approach to recognise and reconstruct the pattern of the fault systems allowing the sub-vertical migration of gas. Furthermore, the often unexpected and extemporaneous discharge of gas in water and in the

atmosphere of these gas seepages, represent a risk for slope instability, the marine ecosystem and increasing the greenhouse effects.