

The Apulian margin consists of a complex shelf-slope system that merges into an elongated deep basin. Four long-axis cores, collected along the basin axis, have been studied from the micropaleontological point of view.

In terms of lithology, bedding and sedimentologic features, at first sight you find what you expect in these cores: that is, more graded beds (turbidites) and continuous deposition in the deepest part of the basin as compared with more elevated parts of the bottom to the South. You would also expect some reworking of sediment and erosion as the bottom shallows and the basin narrows.

However, after biostratigraphic analysis has been done and time lines traced (ecozone boundaries, matched by the $\delta^{18}O$ curve: see BORSETTI *et al.*, this volume), some puzzling elements stand out in the picture. For example, it is quite unclear why core 14, from maximum depth along the transect, where turbidites (both terrigenous and volcanoclastic) can indeed be detected, shows a strong thinning of interval 2. Could that be related to "erratic" erosion by gravity flows? But, where should they have deposited their load? And why the same interval is almost absent in Core 17, where the underlying ones are represented and evidence of turbidity flows is poor to absent?

Judging from these data, we should admit that we know very little about deep water circulation in the Adriatic. Are there bottom currents and 'abyssal storms'? Or is it possible that axial gravity flows interfere with lateral flows? Where are the entry points and dispersal path of these flows? What is the mutual influence of surficial currents and intermediate or deep flows? What their respective role in distributing (or disturbing) sediments?

Some useful information, apart from oceanographic factors, could be gained from detailed morphological and seismic surveys of the basin margins; in particular, they should provide a sufficient coverage parallel to contour lines, in order to detect gullies and other possible pathways for turbidity currents or debris flows.

Fig. 1.- Bathymetric map of the Southern Adriatic Sea (data from GIORGETTI and MOSETTI, 1969 and from FABBRI and GALLIGNANI, 1972; modified).

1, isobath in meters; 2, seismic lines showed in Fig. 2; location of gravity cores (3) and box-cores (4).

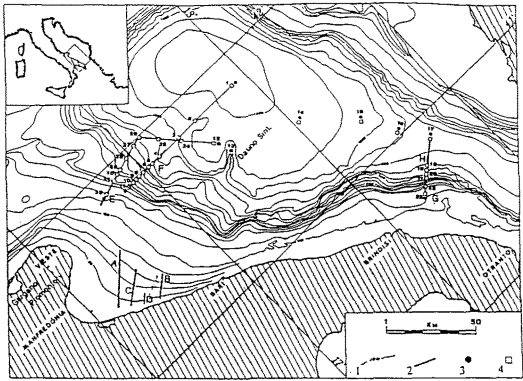


Fig. 2.- Correlation of planktic Foraminifera ecozones (in arabic numbers) and sapropelitic mud layers (dotted intervals) in the four long-axis basin cores.

