

**The autumnal circulation pattern of the Cretan Sea and adjacent basins during the POEM experiment**

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Despite a rather long history of the study of the Cretan Sea the autumnal circulation pattern was remained somewhat unclear up to now. Thanks to the POEM experiments CTD data were collected, between November and the first ten days of December 1986, from an intense grid of stations in the Cretan Sea and adjacent basins of the NW Levantine and S Ionian Basins.

The maps of the dynamic height topography and of the geostrophic flows (Figs. 1, 2) reveal that the general circulation pattern of the area under investigation consisting of different horizontal cyclonic and anticyclonic gyres interconnected by currents.

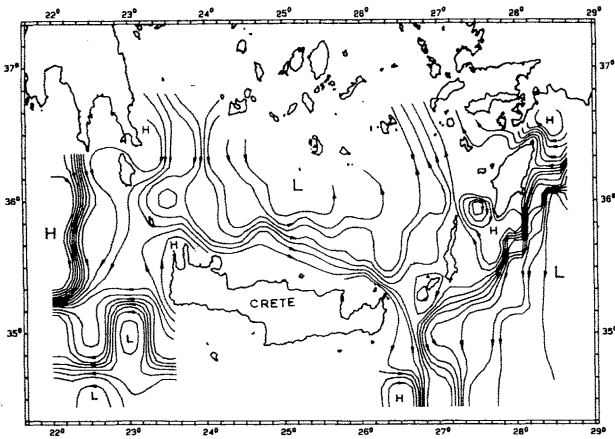


Fig. 1.- surface dynamic height topography of Cretan Sea and adjacent basins relative to 500 m, autumn 1986.

The main features of the circulation pattern in the Cretan Sea this transient season were: a) the large cyclonic flow region, which occupied the greatest part of the sea, b) the northward flow region in the eastern part, c) the two small scale anticyclonic flow regions in the area of the western Cretan Arc straits and d) the intense anticyclonic gyre within the area of the Karpathos Strait. In contradiction to the winter 1987 flow pattern (ZODIATIS, 1991b) this autumnal period the main current, which prevailed in the Cretan Sea, was meandering from the NW to the east and was of the same direction to that of summer 1987 (ZODIATIS, 1991a).

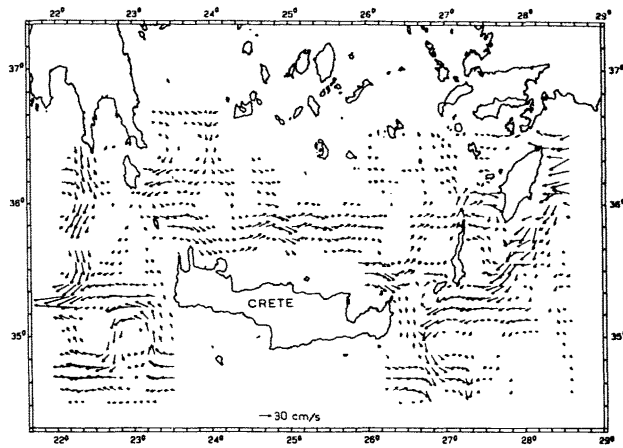


Fig. 2.- Surface geostrophic flow pattern of the Cretan Sea and adjacent basins, autumn 1986.

The circulation pattern of the adjacent basins was similar to that of winter-summer periods 1986, 1987 (ZODIATIS, 1992). It was determined by the activities of the Asia Minor current and of the large Rhodos cyclonic gyre in the NW Levantine Basin. In the south Ionian Sea the large anticyclonic gyre south from the Greece mainland and the cyclonic flow region SW of Crete island were dominated. However, the present seasonal variabilities of the location, deformation of the boundaries of the above gyres and of the currents influenced in a lesser degree the circulation of the Cretan Sea in comparison to other seasons.

**REFERENCES**

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