

THE EASTERN MEDITERRANEAN GENERAL CIRCULATION:
FEATURES, STRUCTURE AND VARIABILITY

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Maps are presented for dynamic height and geostrophic flow in the upper thermocline based upon four basinwide hydrographic surveys during 1985-1987. The data collection was coordinated, intercalibrated and pooled by the international research program for Physical Oceanography of the Eastern Mediterranean (POEM). Objective analysis mapping was constrained to have no normal flow into the coasts. These maps reveal a new picture of the general circulation in which subbasin scale gyres are interconnected by jets and currents. Important variabilities occur in permanent and recurrent features but transient eddies and jets also occur. A schematic synthesis is constructed.

Figure Captions

Fig. 1. a) The Eastern Mediterranean basin geography and nomenclature of the major subbasins. b) The bottom topography of the Eastern Mediterranean Sea (contour interval is 500 meters).

Fig. 2. Schematic general circulation. Dashed features are recurrent or transient. a) Upper thermocline, b) Lower thermocline.

Fig. 3. Station location indicated by 0 (deeper than 450 m and shallower than 800 m) and □ (deeper than 800 m), near coastal profiles used in the selection of the boundary profile.
 ● or ■ the selected profile for the coastal constraint or and the positions of inserted boundary profiles x. a) AS 87, b) ON 85, c) MA 86, d) MA 87.

Fig. 4. a) Dynamic height anomaly (dm) for 30/450 (db) for AS 87 with no coastal boundary profiles. b) The error field.

Fig. 5. Profiles of a) temperature, b) salinity, c) density (σ_t), for the stations near northern Levantine coastal region with the selected boundary profile identified by darker line.

Fig. 6. The error field for the map of dynamic height anomaly (dm) at 30 (db) relative to 450 (db) for AS 87 with coastal constraint.

Fig. 7. a) Dynamic height anomaly (dm), upper thermocline (30/450) with coastal constraint, AS 87. b) Horizontal flow vectors at 30 m, AS 87.

Fig. 8. as in Fig. 7 but for ON 85.

Fig. 9. as in Fig. 7 but for MA 86.

Fig. 10. as in Fig. 7 but for MA 87.

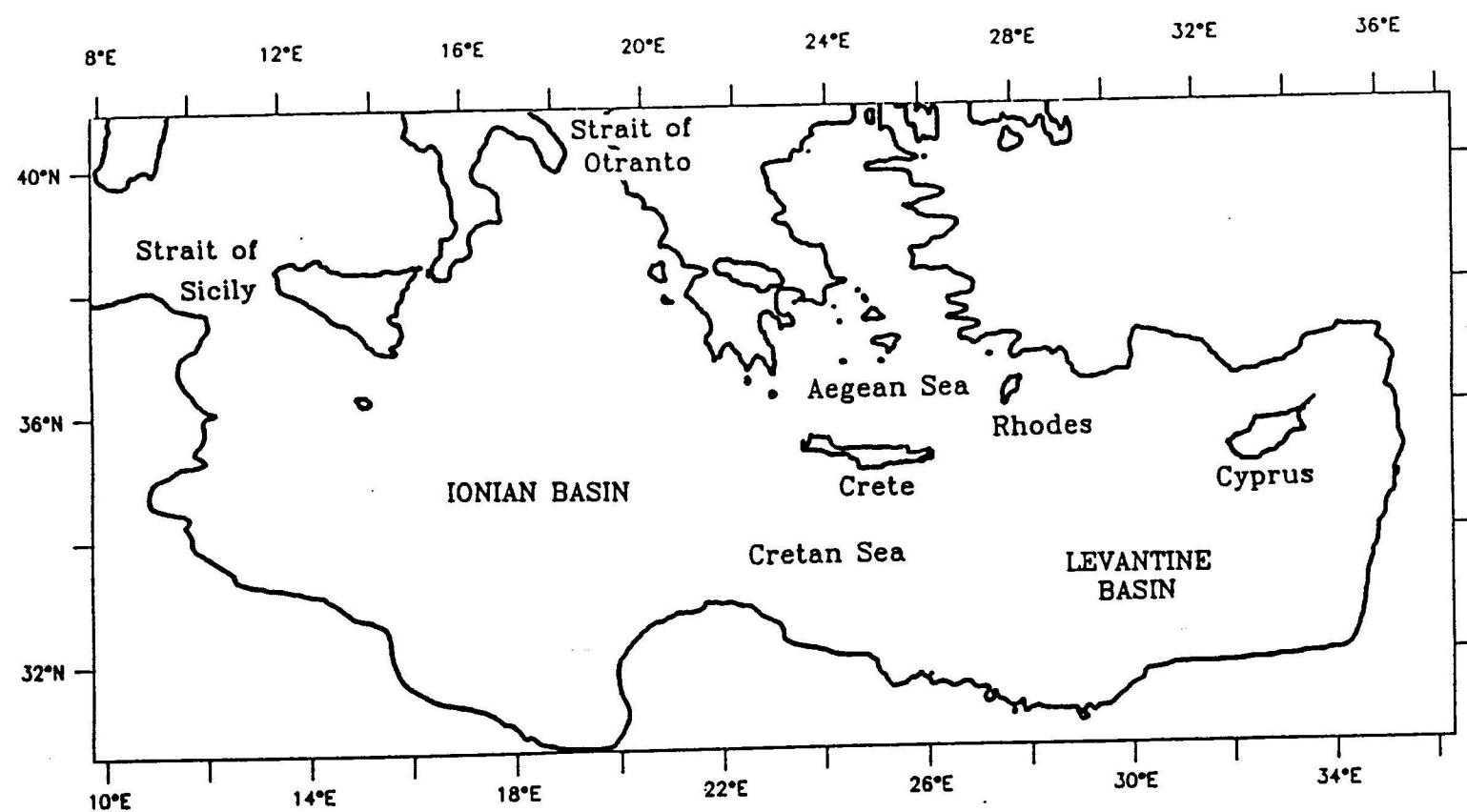


Figure 1a

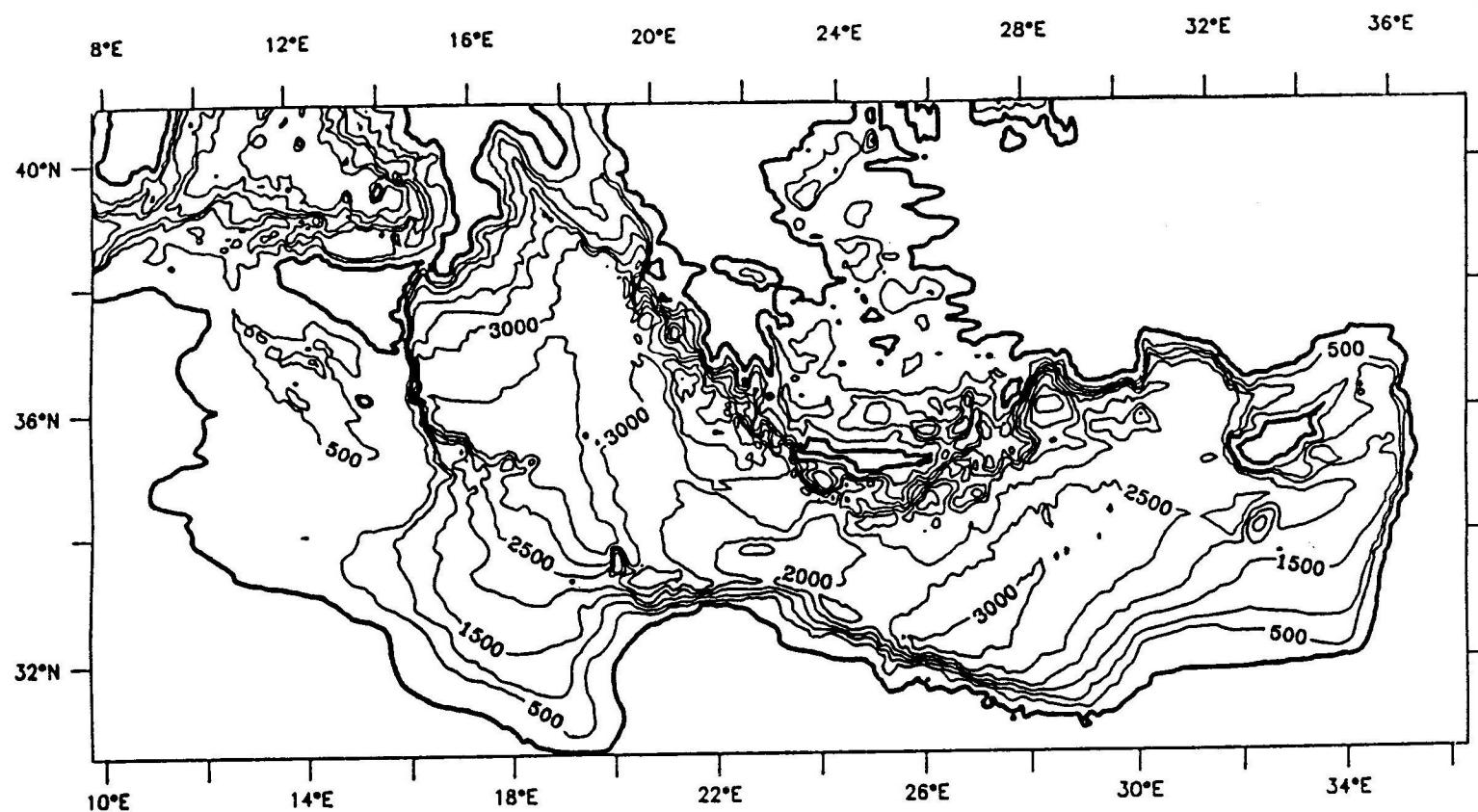


Figure 1b

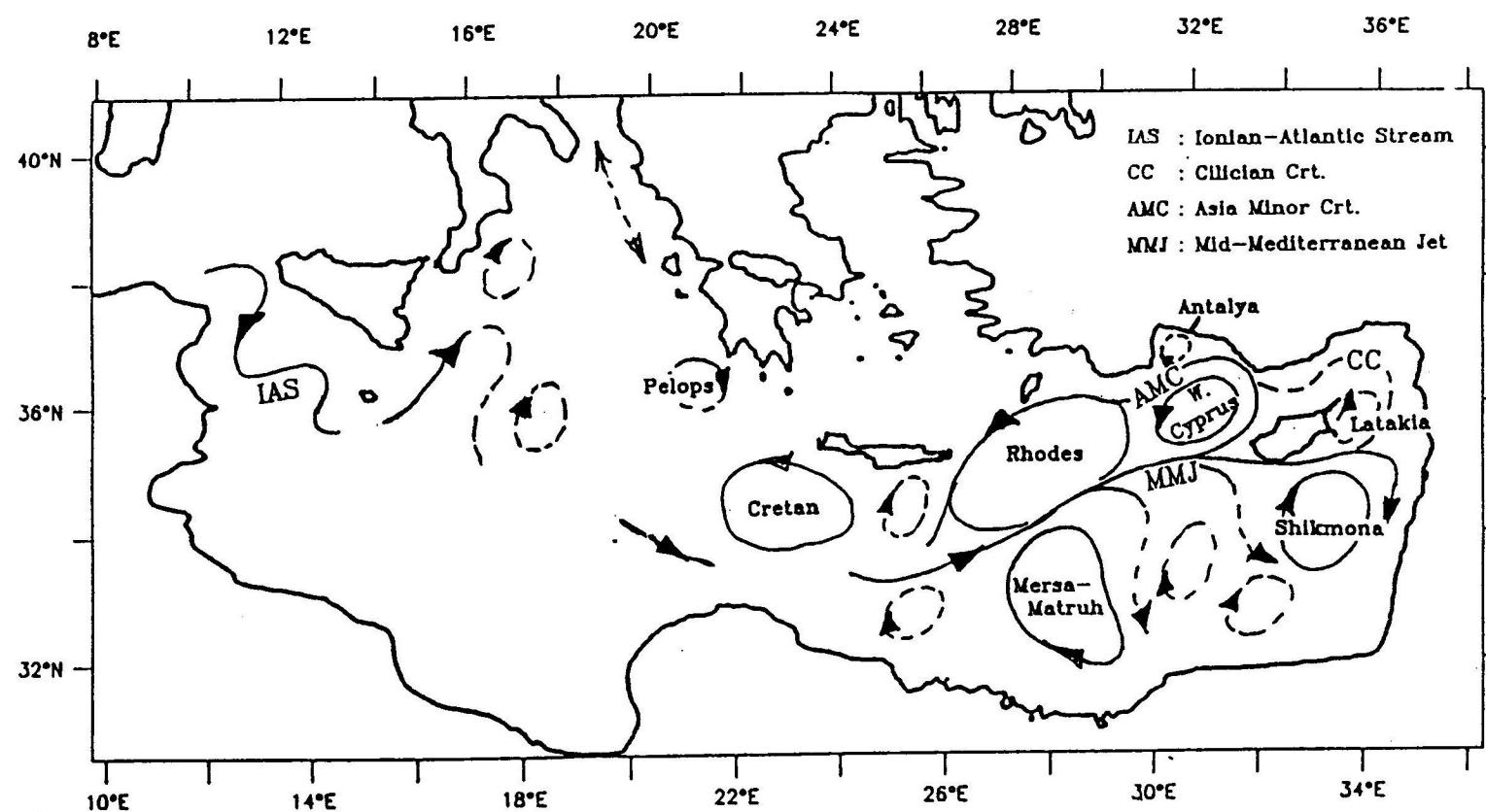


Figure 2

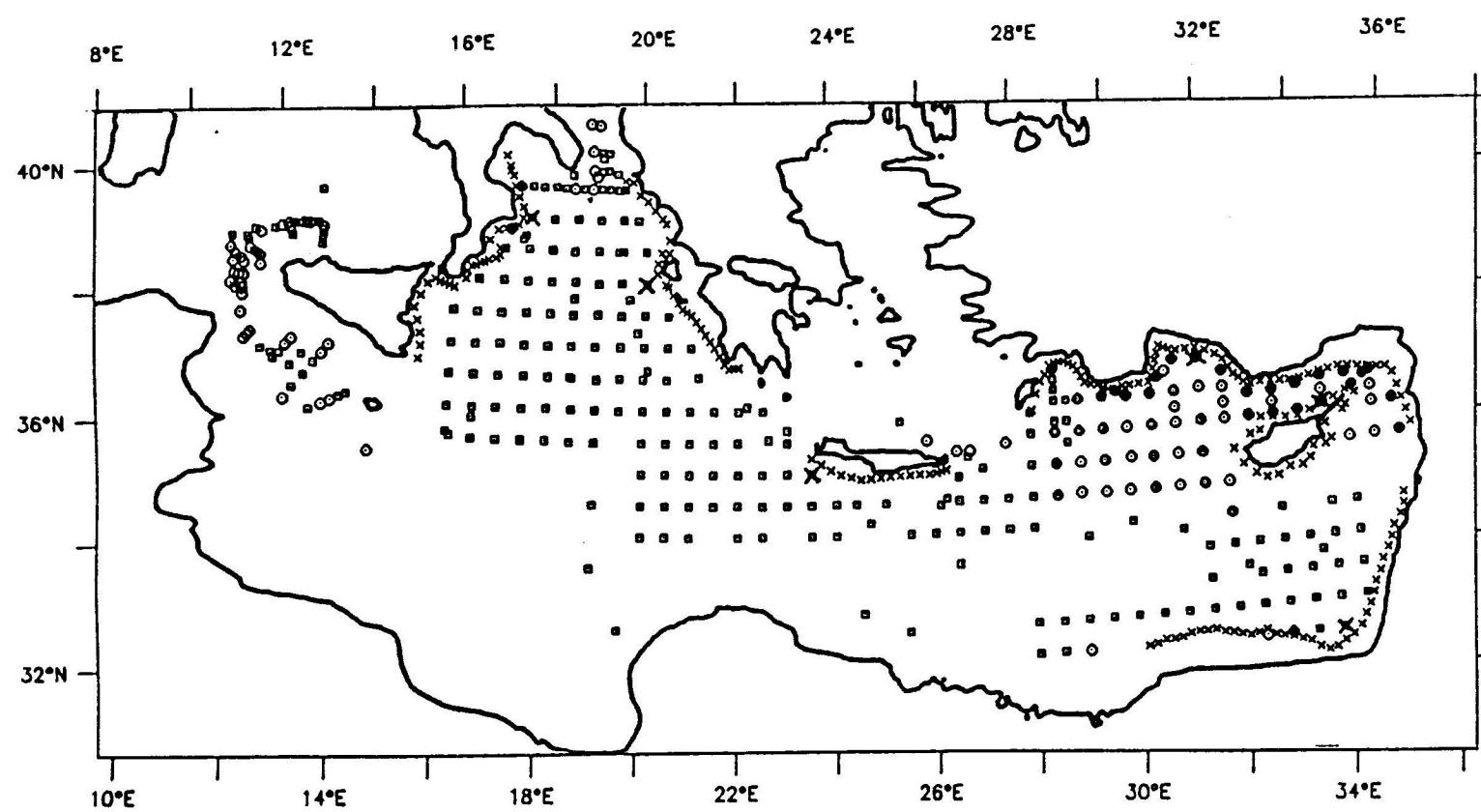


Figure 3a

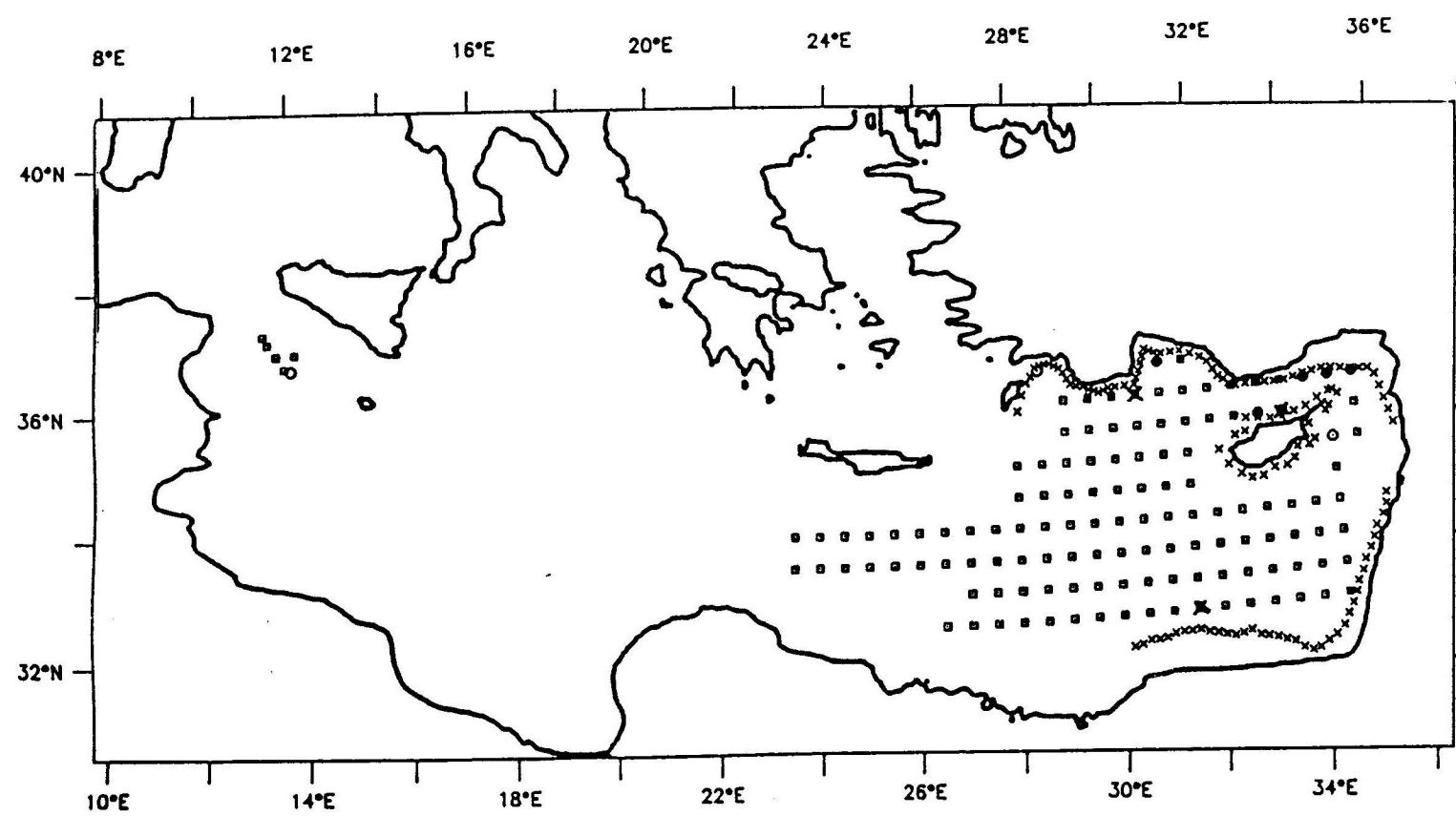


Figure 3b

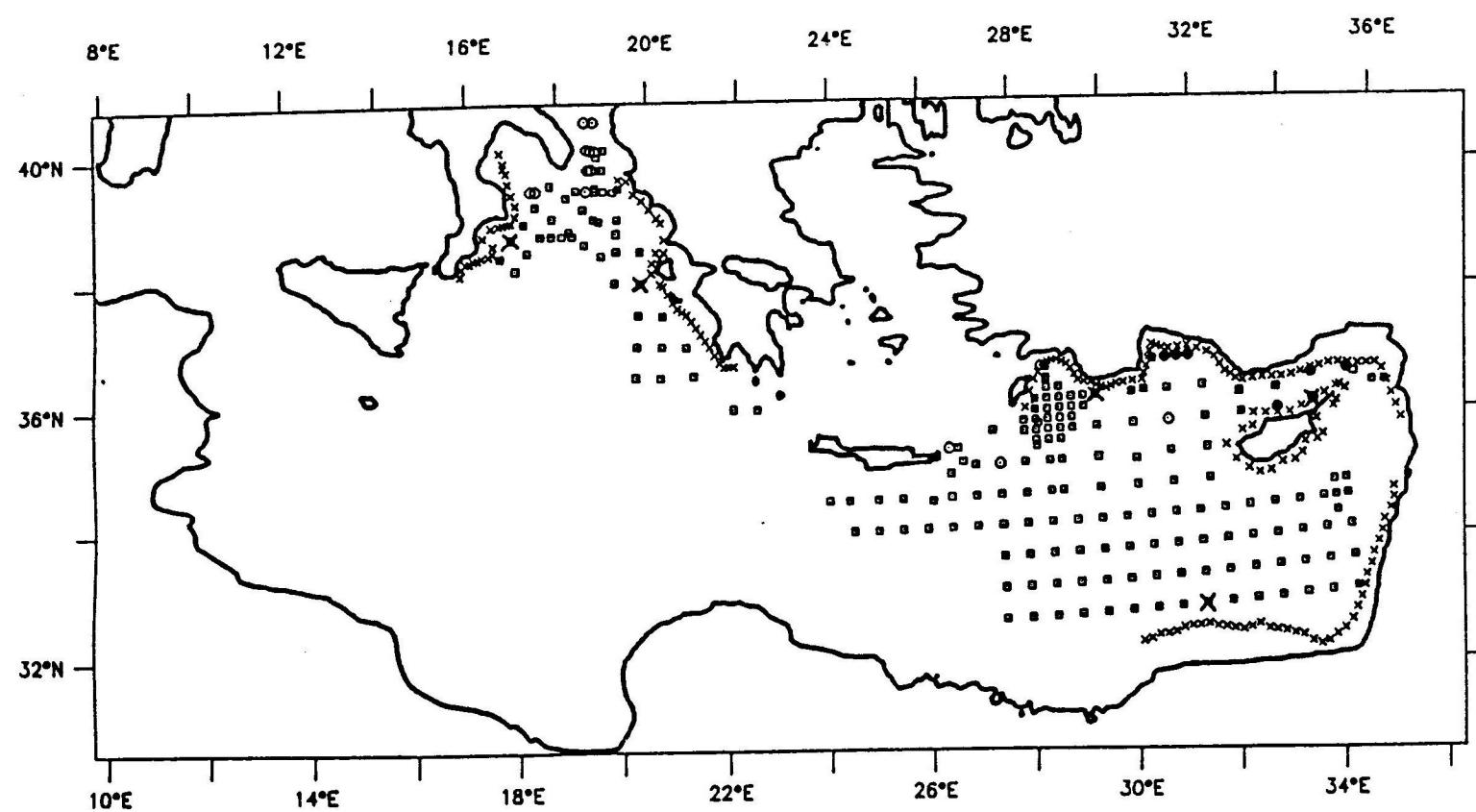


Figure 3c

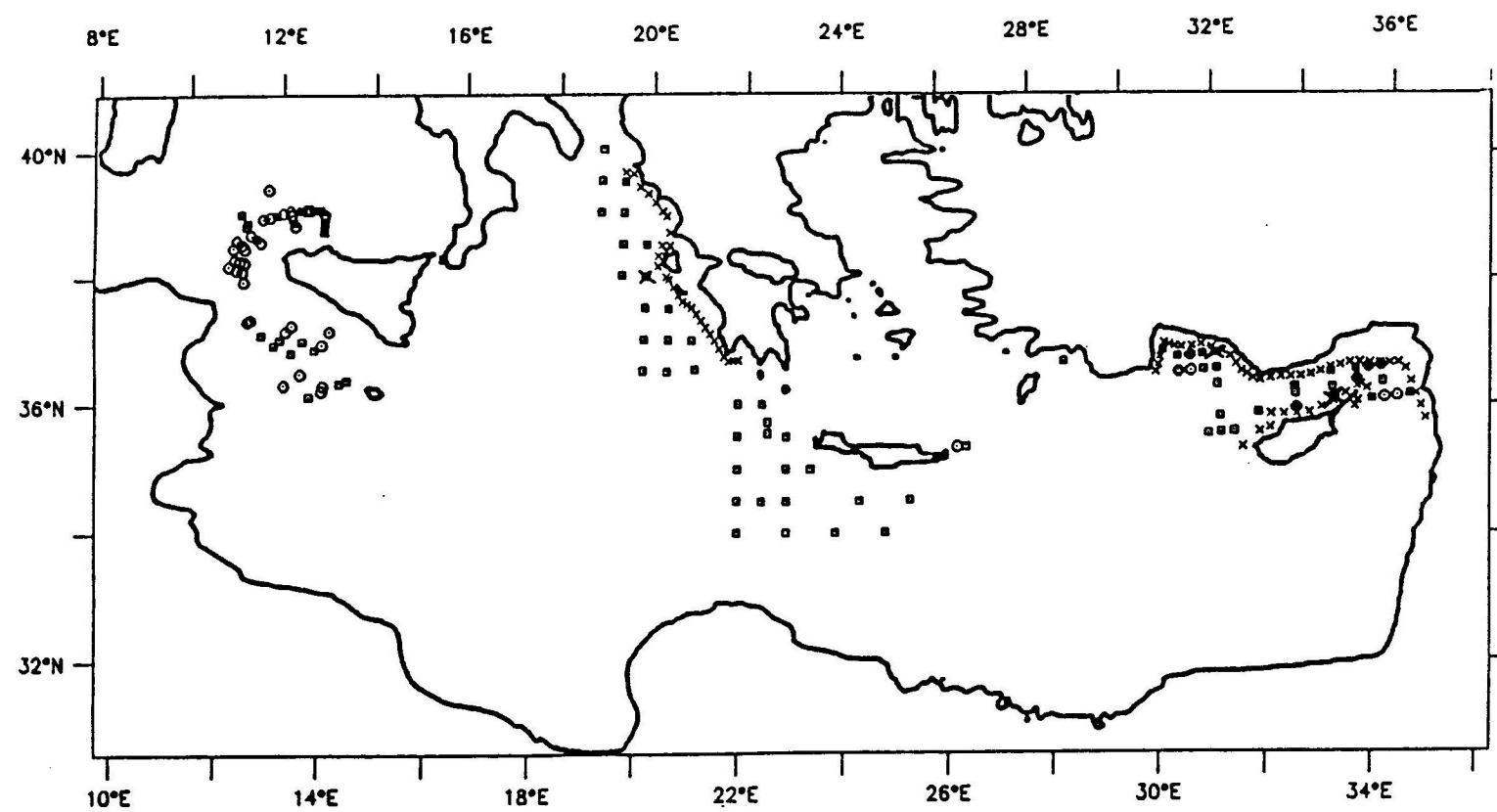


Figure 3d

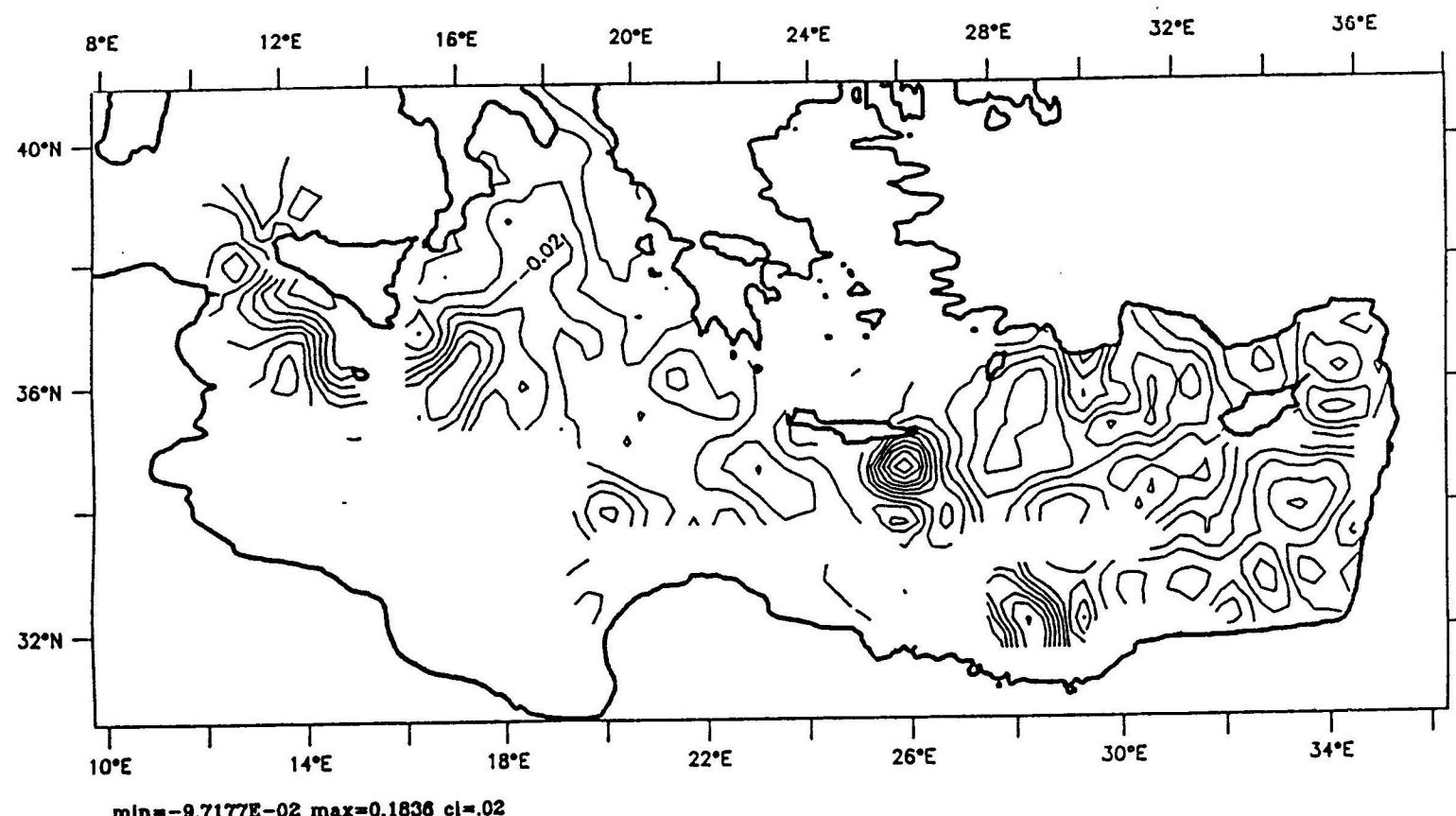


Figure 4a

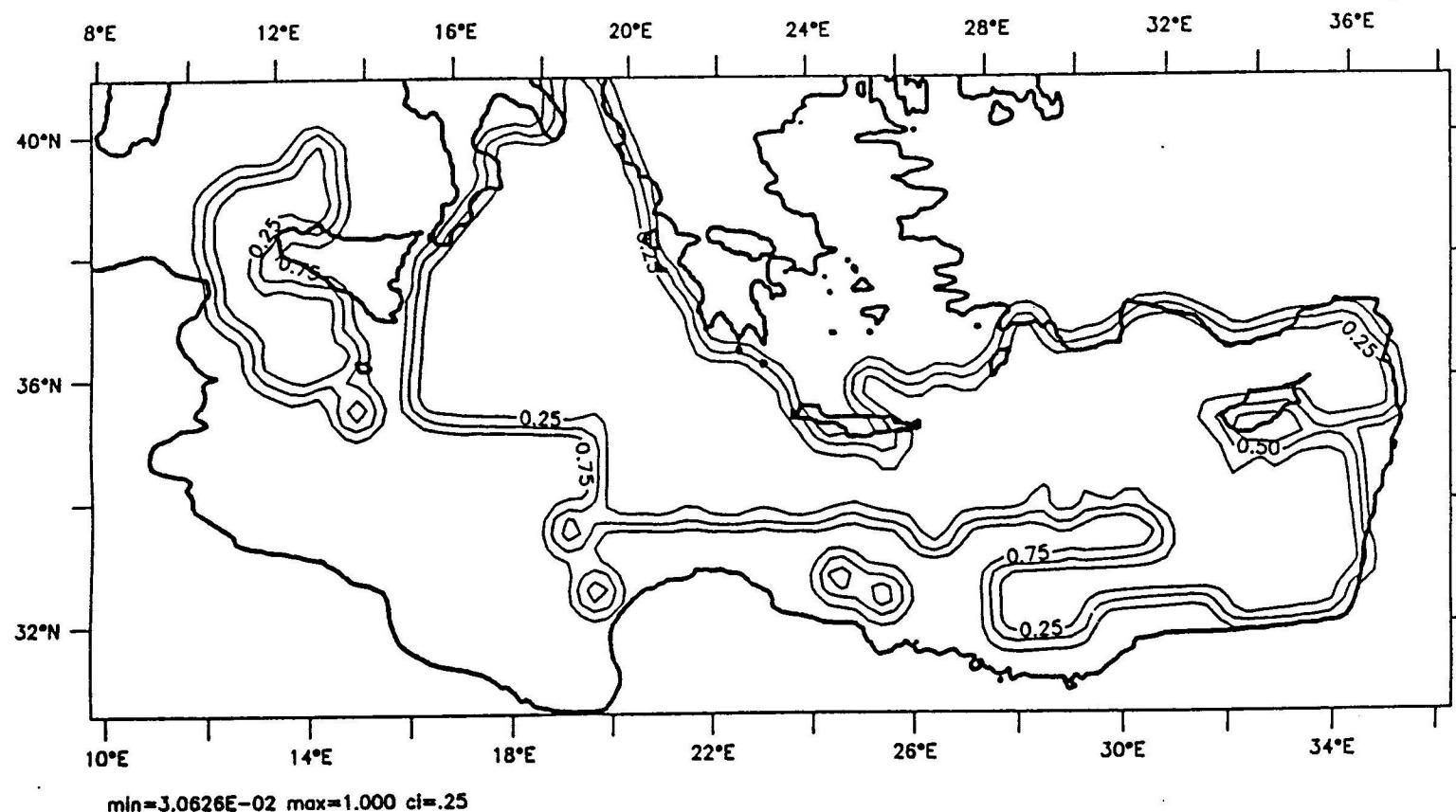


Figure 4b

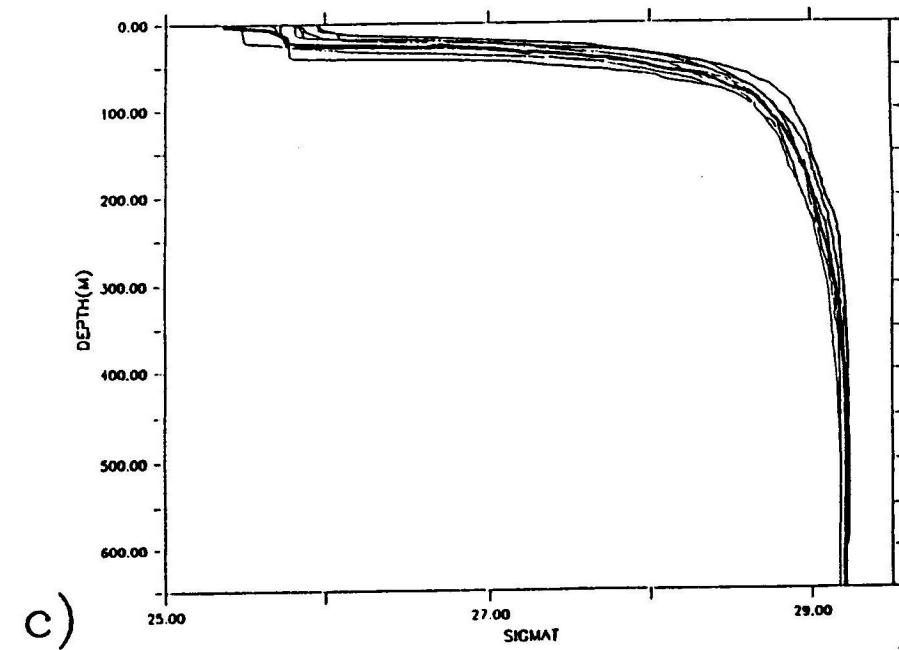
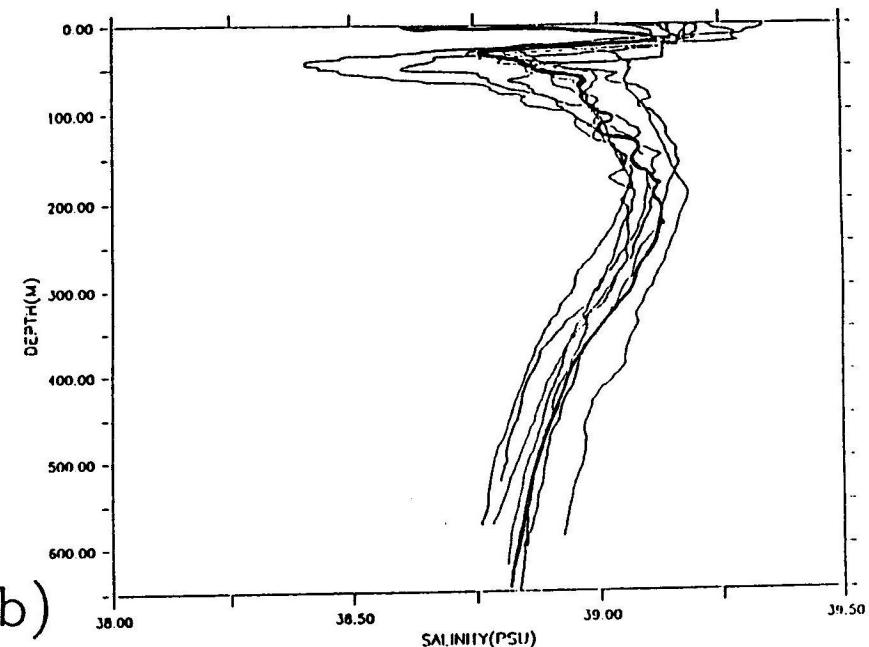
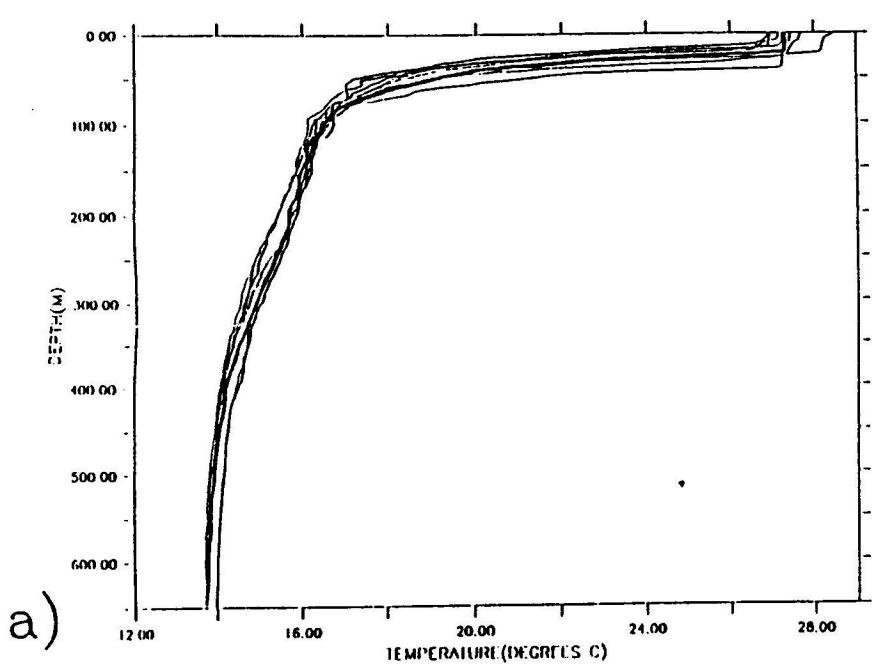


Figure 5

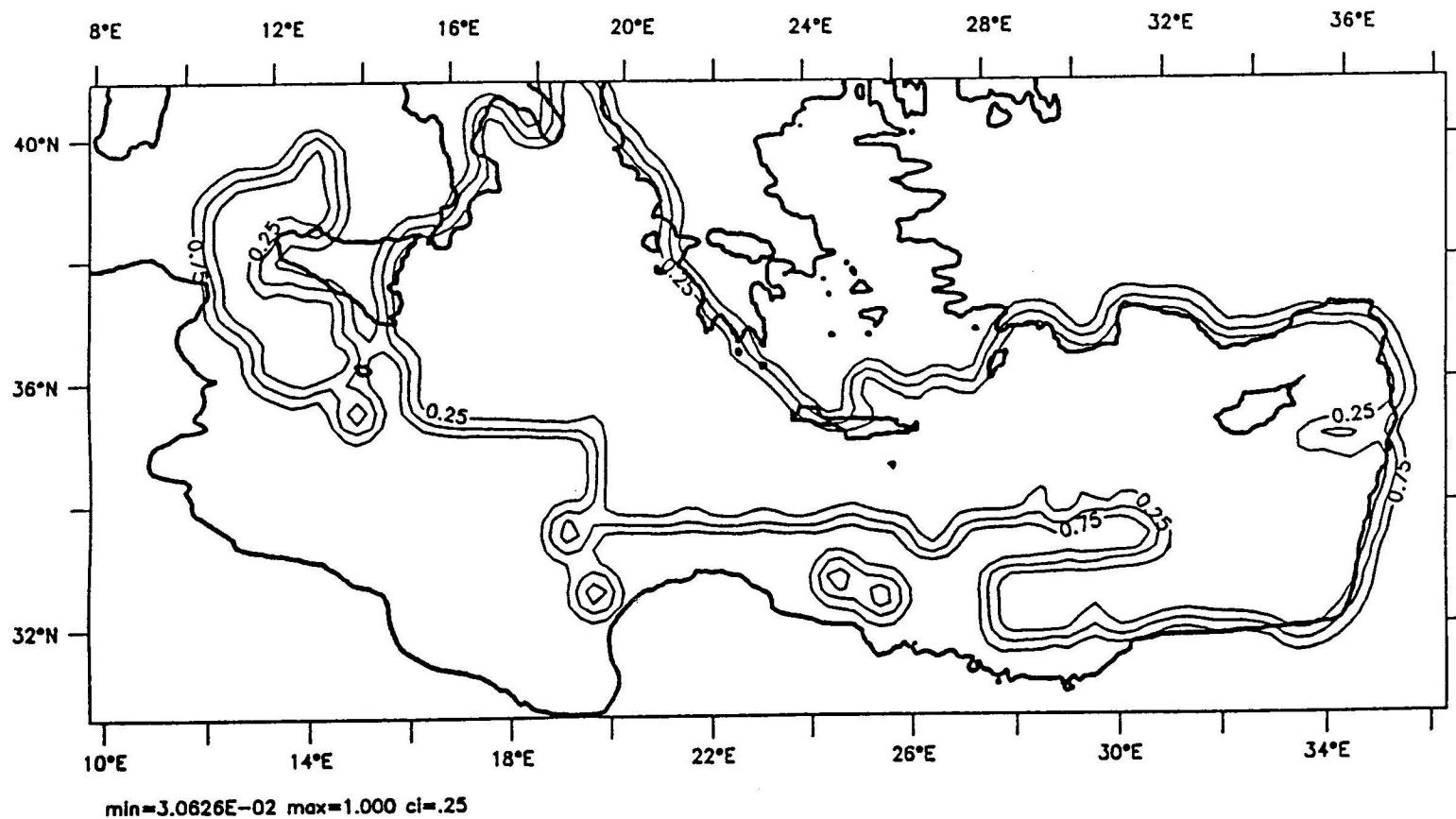


Figure 6

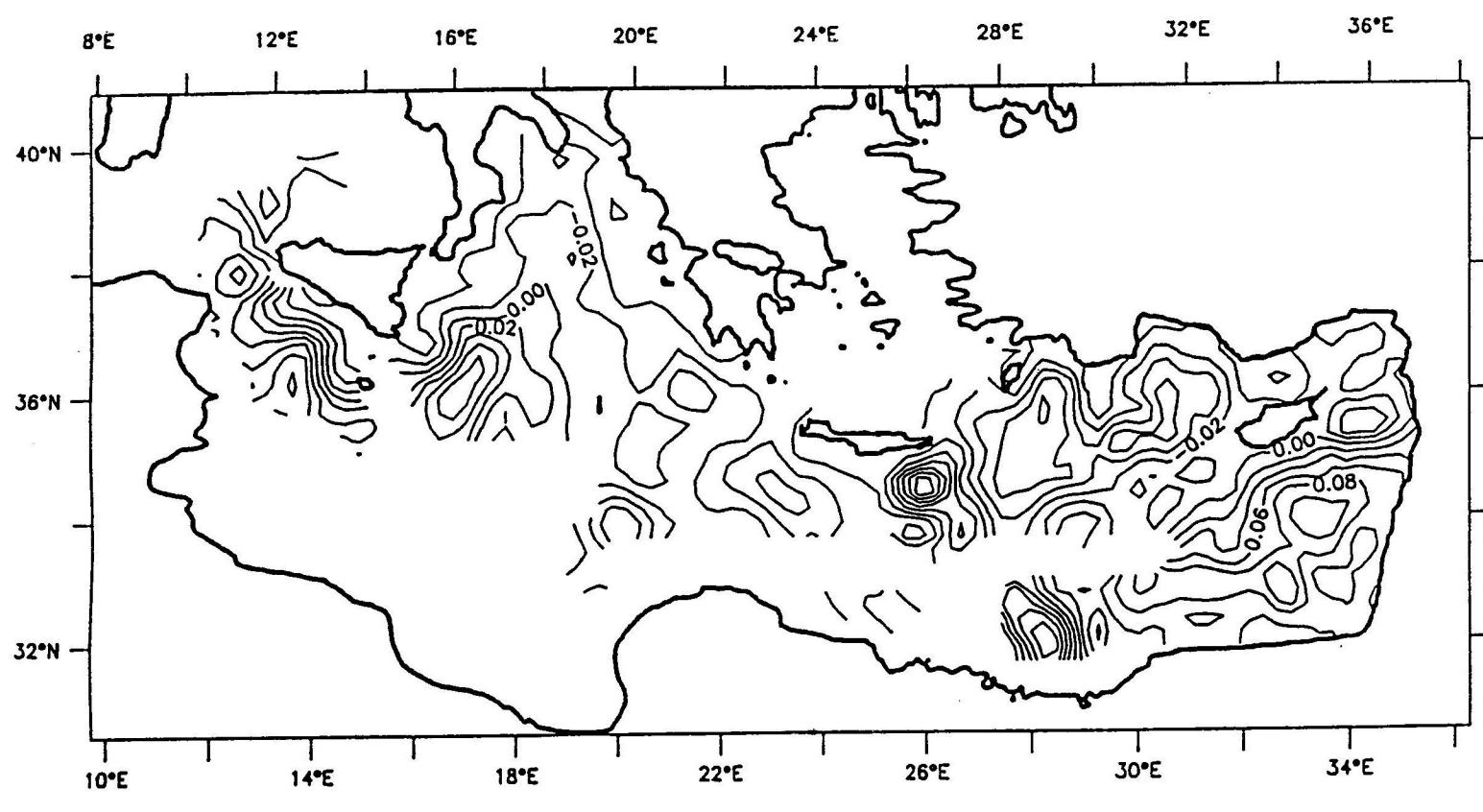


Figure 7a

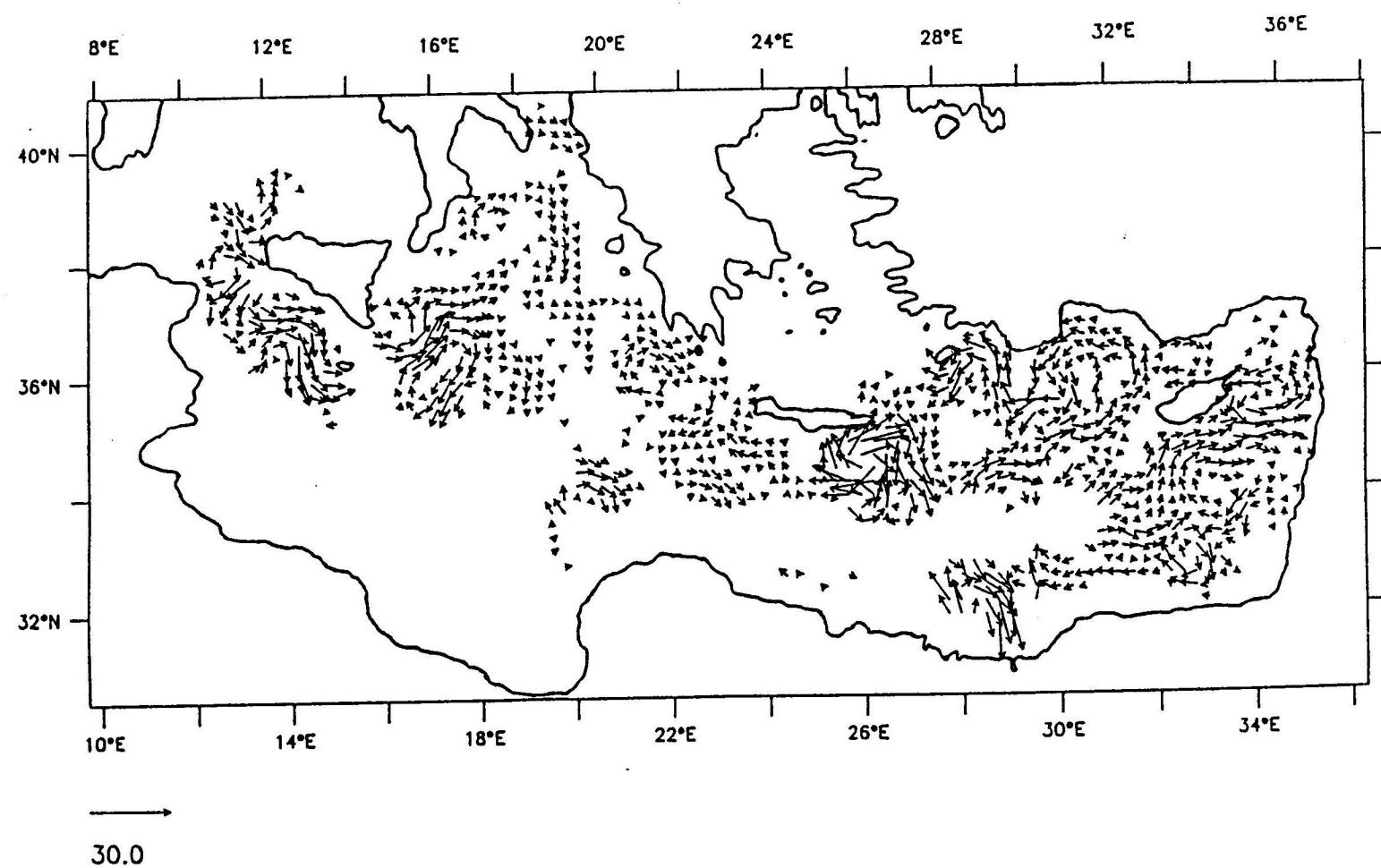


Figure 7b

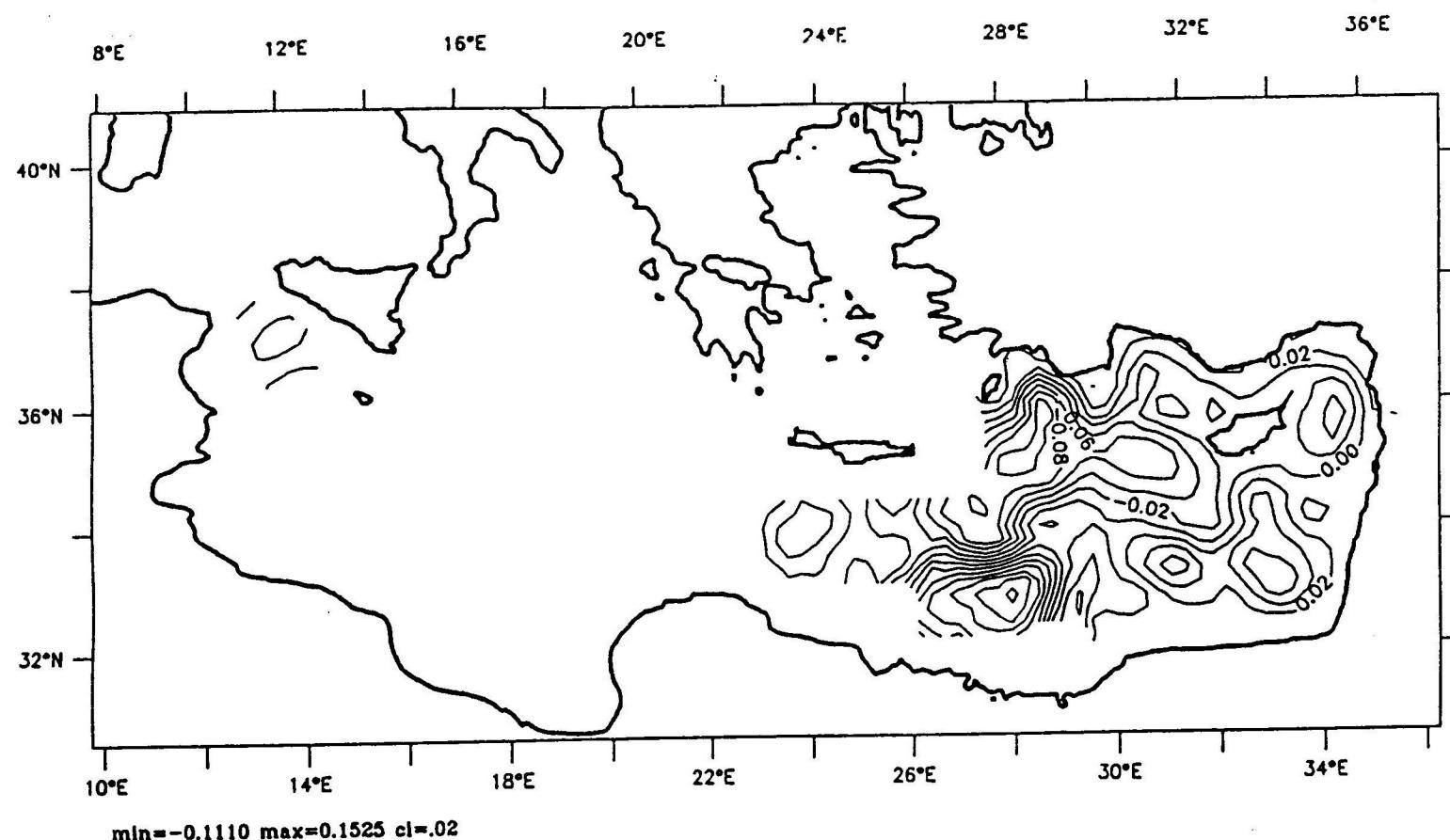


Figure 8a

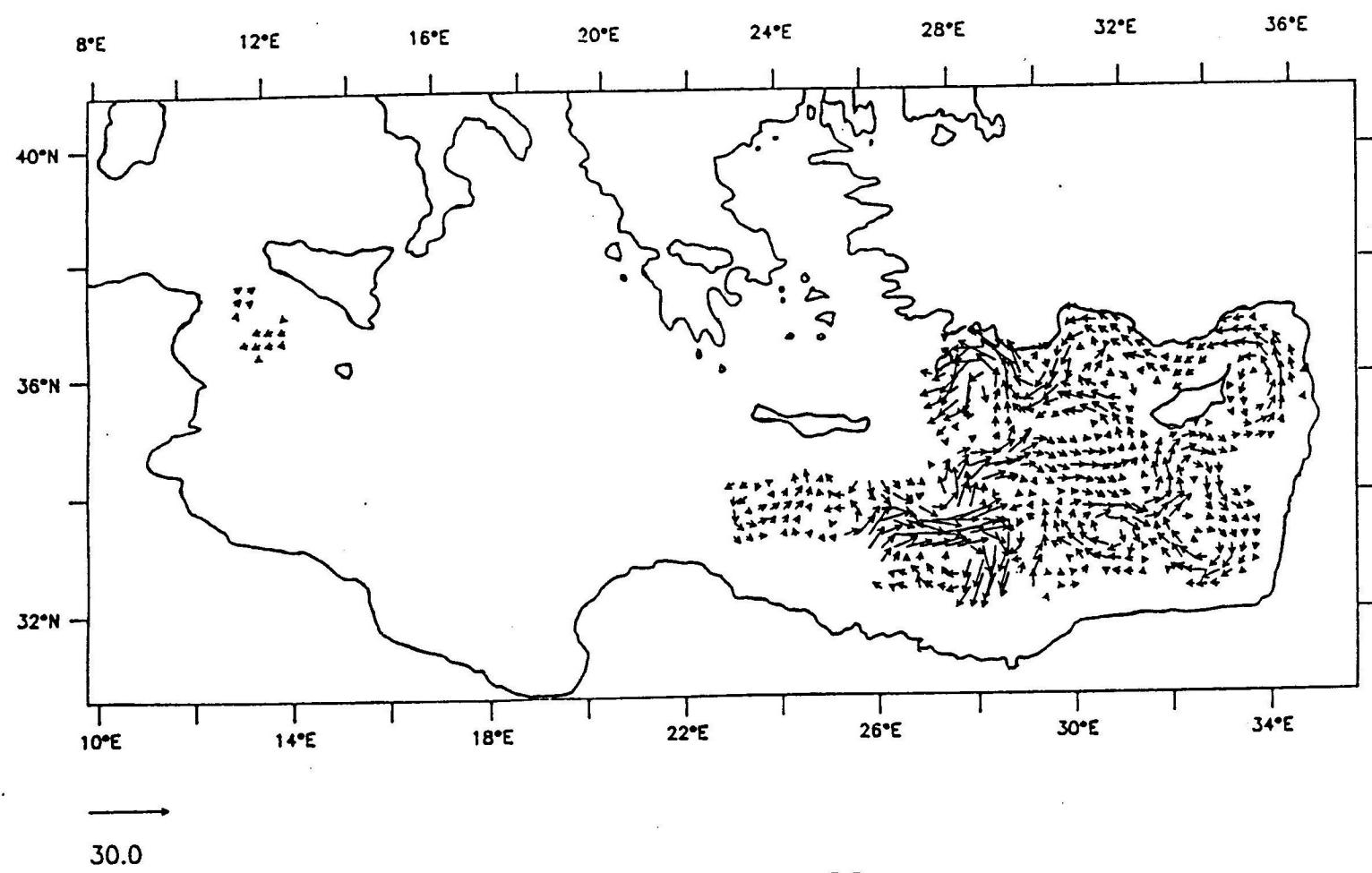


Figure 8b

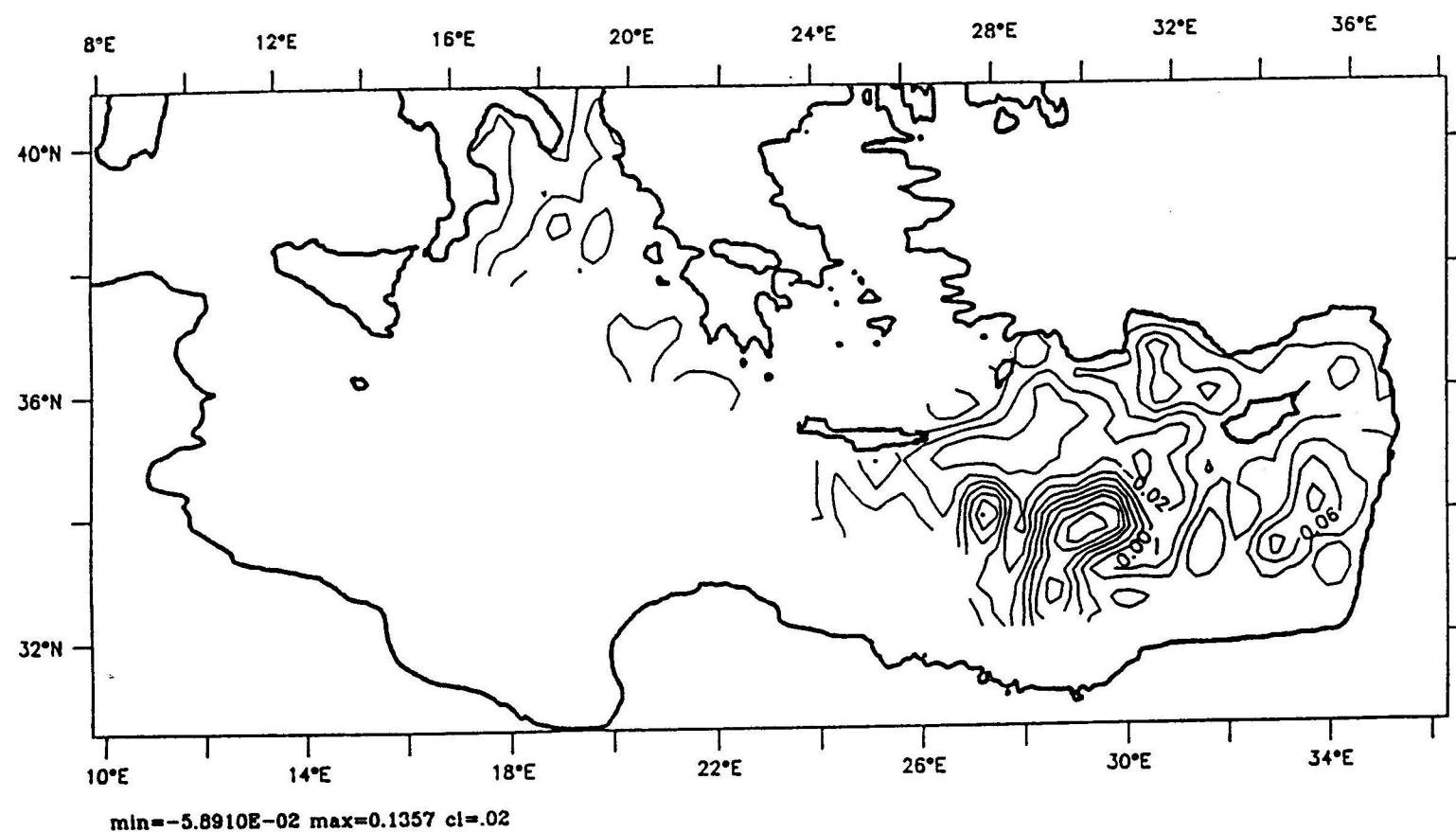


Figure 9a

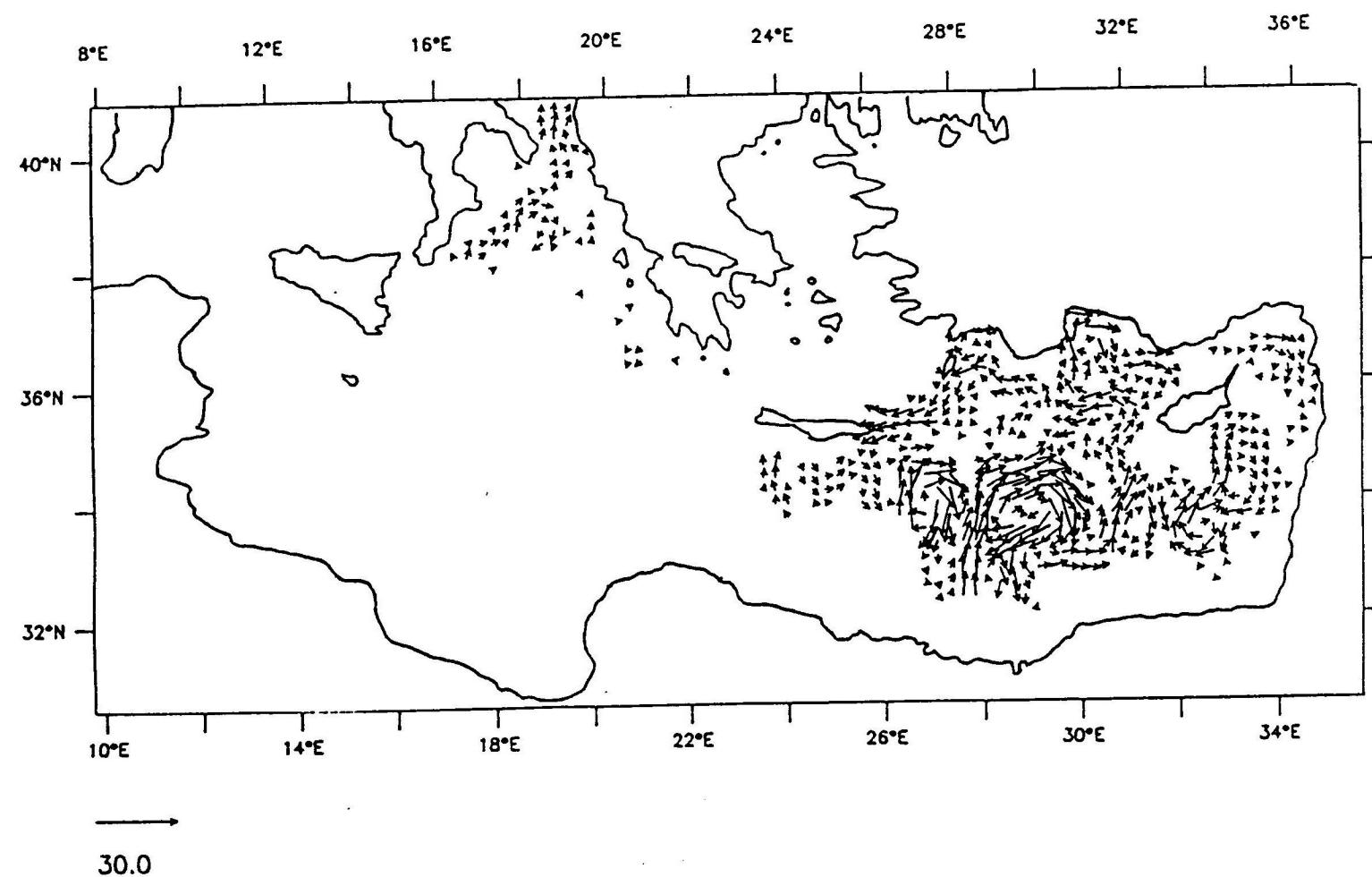


Figure 9b

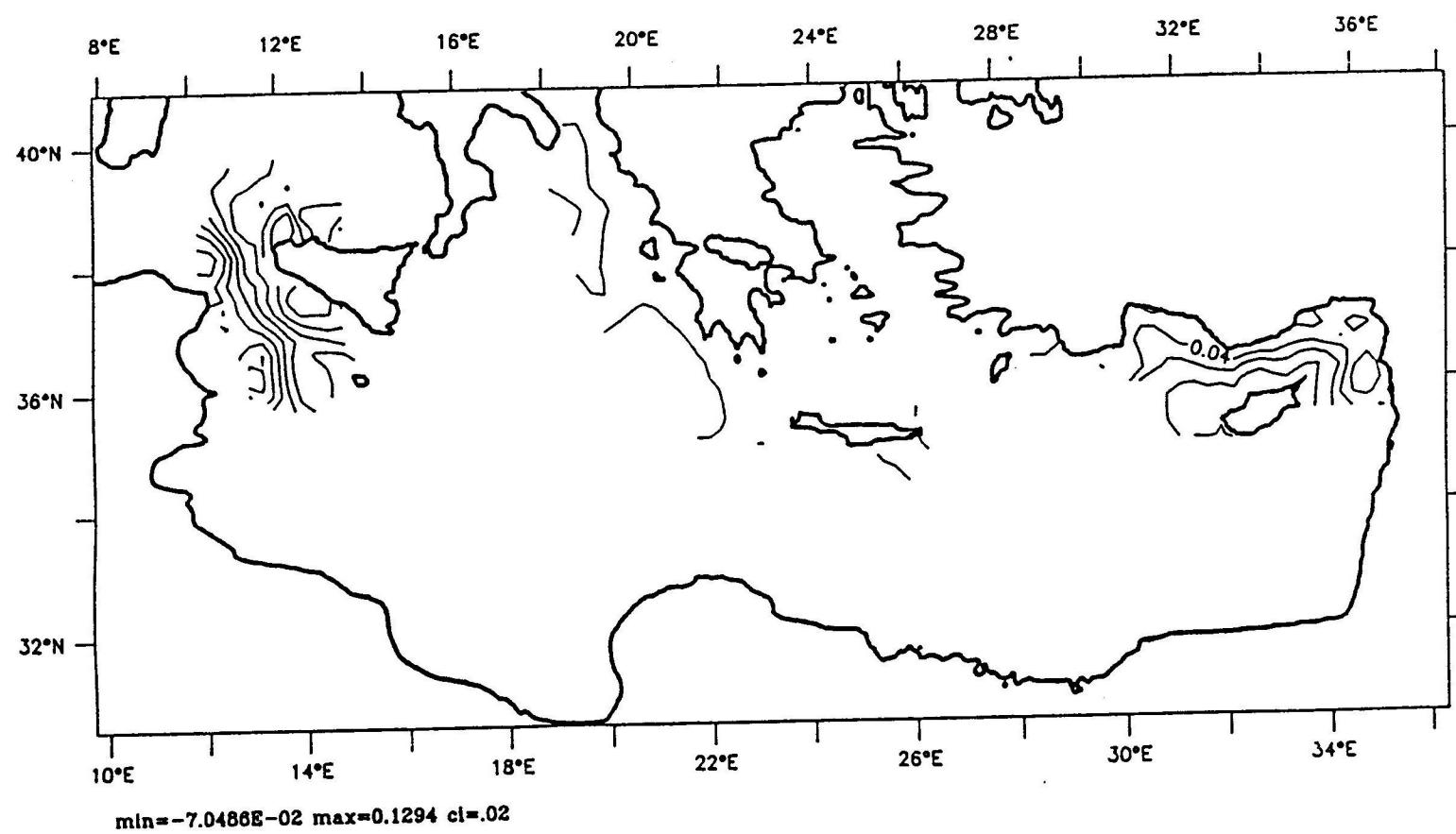


Figure 10a

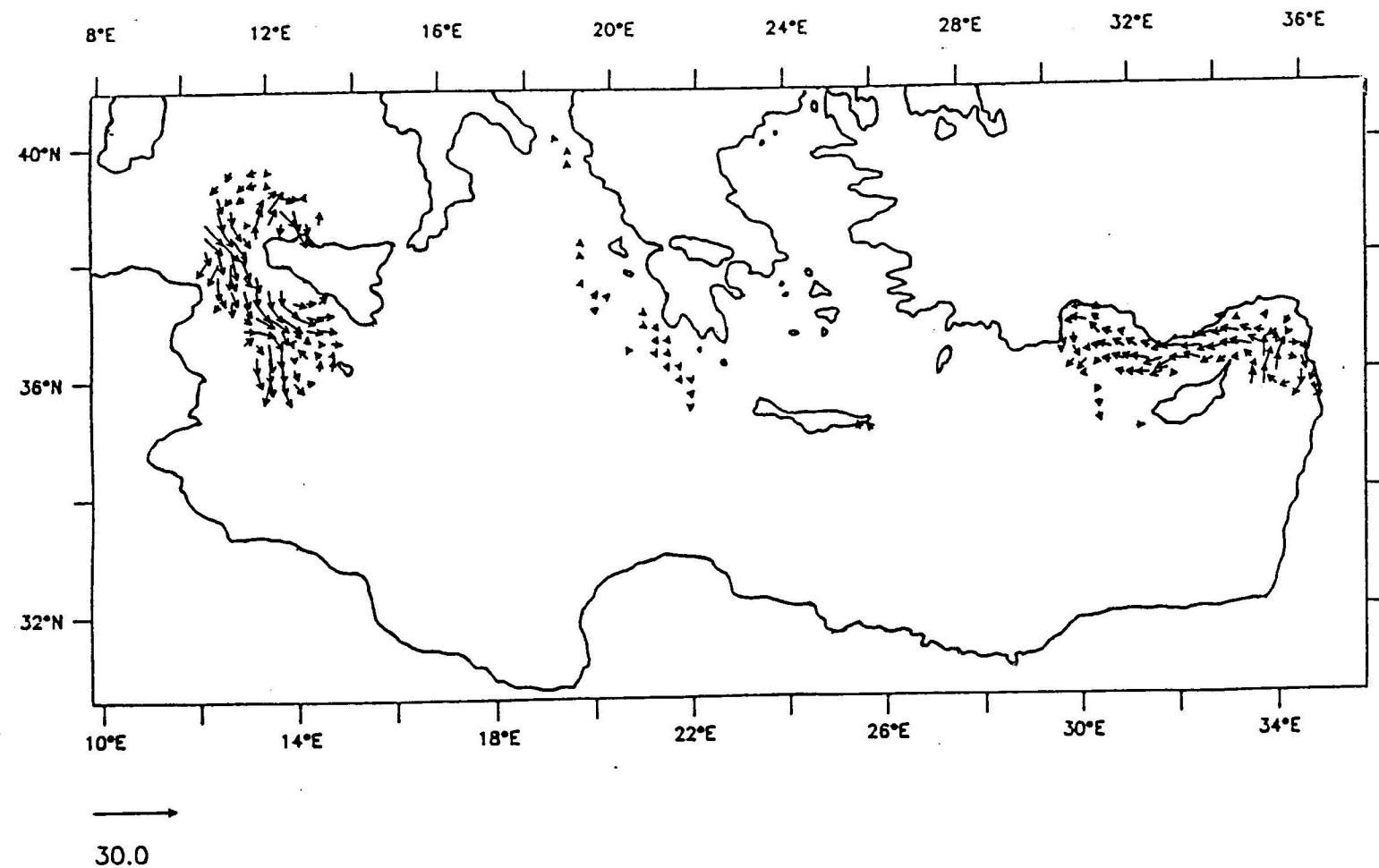


Figure 10b

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FOURTH POEM SCIENTIFIC WORKSHOP

Istituto Studio Dynamica Grandi Masse-CNR
and
Istituto Veneto di Scienze, Lettre ed Arti
Venice, Italy

27 August — 1 September 1990

