

## The Heat Content Changes in the surface layers of the Ligurian Sea during October 1978

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The knowledge of heat content in the sea and its space and time variation is of importance in many atmospheric and oceanic dynamical processes. Estimations of oceanic heat content and heat budget on climatological and large spatial scale can be found in literature, but there is a general lack of information about the total heat budget on regional and synoptic scale.

An attempt to estimate surface heat budget, heat content variation and advection from currents during October 1978 in the Ligurian Sea is performed.

Two hydrographic sections, Genova-Capo Corso and Imperia-Capo Corso were repeated three times during October 1978; 52 Temperature, Salinity and Density profiles through a depth of 400 m. were collected. Meteorological and global solar radiation data for the whole period were provided by Genova and Imperia Meteorological Observatory; other meteorological measurements were performed on board during the three oceanographic cruises.

Heat storage computation was performed for each station at different levels by :

$$Q = C_p \rho T Dz$$

$C_p$  sea water heat capacity = 4000 J/°K

$\rho$  mean density

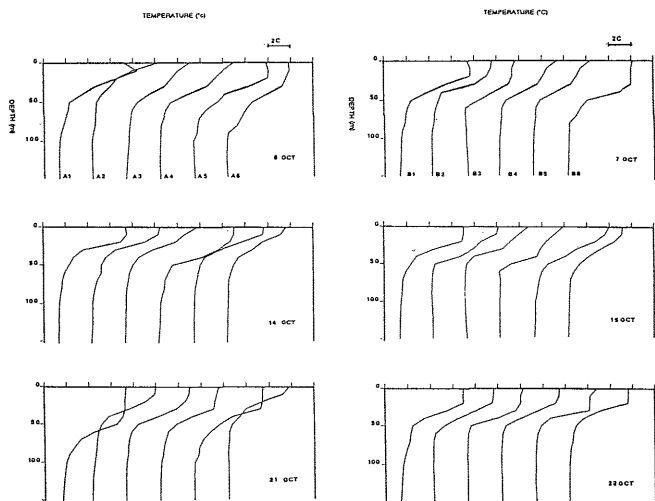
T mean potential temperature

Dz layer thickness

Vertical resolution was 10 m in the upper 100 m, 25 m between 100 m and 200 m and 50 m between 200 and 400 m.

Surface heat balance were estimated by using bulk formulas and heat advection by means of computed geostrophic currents.

Fig.1 reports six vertical temperature profiles in the section Genova-Capo Corso (A) and Imperia-Capo Corso (B).



### REFERENCES

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