## O-V2

### A NUMERICAL INVESTIGATION OF UPPER OCEAN THERMAL STRUCTURE IN THE MEDITERRANEAN USING CLIMATOLOGICAL AND GCM FLUXES

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The seasonal evolution of the thermal structure in the upper 500 m. of the Mediterranean is investigated using a 1-D second-order closure turbulence mixed layer model.Both climatological and GCM fluxes are used to drive the model.Due to the lack of a weather ship with continuous observations,the fluxes were compared with each otherand corrected for long term biases using climatological heat changes in the water column.

Detailed studies of spatial and temporatl variations are performed using a high vertical resolution 1-D model and GCM fluxes at selected locations.Particularly the Spring shallowing and fall mixing as a funstion of basin location were examined.A 3-D model with coarse vertical resolution and inclusion of advection due to Ekman drift and geostrophic currents was used to study the distribution of Ekman divergence and the heat budget. Both climatological and Gcm fluxes were used in the latter study.

## O-V3

### THE GENERAL CIRCULATION OF THE EASTERN MEDITERRANEAN : WIND VERSUS THERMOHALINE FORCING

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The wind versus thermohaline driven general circulation in the Eastern Mediterranean is studied through a multi-level general circulation model with coarse resolution but active thermodynamics.The numerical experiments are divided into two basic sets.First, the wind-driven circulation is studied using the model in its barotropic version with the real bottom topography.

Then, the model is used in its 3 level version always under the wind forcing alone.Various steady winds are used to compare the winter versus summer steady circulation. The general experiment is the one year cycle in which the observed climatological wind stress field is used (monthly averages).

Second, the thermohaline circulation is studied using the model in the same three level version ( surface atlantic- intermediate levantine- deep bottom waters). Climatological averages for temperature and salinity are used to initialize the model.The model is again driven with average surface fluxes for the winter and summer seasons to compare the two steady situations with the corresponding wind driven ones.The general experiment is then carried out for the one year cycle of the climatological surface fluxes (monthly averages). The results are compared and discussed.

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