Geophysical Research Abstracts, Vol. 7, 06890, 2005 SRef-ID: 1607-7962/gra/EGU05-A-06890 © European Geosciences Union 2005



Verification of the surface fluxes calculations using two way couled model over the Mediterranean area

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Air-sea interaction in the Mediterranean area was analyzed using a two-way coupled atmosphere-ocean model. Eta/NCEP (Limited area atmosphere model) was atmospheric component while POM (Princeton Ocean Model) was its ocean component.

The main topic is verification of surface fluxes, which come from the atmospheric part of the coupled model. This will presumably result in good prediction of SST. Therefore good prediction of SST in this kind of simulation can serve as a confirmation of the good fluxes of atmospheric model. Our verification starts with the comparison between area average of the observed and simulated SST for the whole Mediterranean sea.

Beside the verification of SST there are some ideas about the values of fluxes them selves. Up to now there were numerous papers concerning yearly (longer term) averages of surface fluxes for the Mediterranean area. These results are based on both mesurments and various kind of parameterizations or model calculation. So we have also compared our numbers for the annual averages and the numbers present in this earlier works.

The length of simulation was one year (2002). It is important to emphasize that the run was uninterrupted for whole year, which means start with a single initial field for both atmosphere and the ocean and then only updating at boundaries. For the initialization of the ocean part the MODB data set was used. For the atmosphere part the Deutshen Wetterdienst (DWD) data, was used both, for the initial and for the boundary conditions. The boundary conditions were updated every six hours.