



Sea level rise over the Mediterranean: present climate and scenario Simulations

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A regional atmosphere-ocean coupled model (the PROTHEUS system) has been used to estimate sea level rise in the Mediterranean basin. A present climate simulation has been forced by ERA40 covering the period 1958-2001. Another simulation has been forced by the coupled model ECHAM5-MPIOM for the period 1951-2000 and under the scenario SRES A1B for the period 2001-2050. The present climate simulation has been verified in terms of temperature and salinity against observed data, showing good performances both in the mean values and in the variability.

Halosteric and thermosteric components have been computed and the total steric sea level has been compared with satellite data. The comparison with altimeter data has been done for the whole Mediterranean and for sub-basins, the capability of the system to reproduce the inter-annual variability of the sea level has been verified. Data from the scenario simulation have been used to evaluate long term trends for the XX and XXI centuries.

The modelling tools presented in this work, developed in the framework of CIRCE EU Project RL2 will also contribute to the Med-CORDEX activities.