



## **The Mediterranean Sea water properties and their future projections in an ensemble of coupled ocean – atmosphere models**

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The impact of global warming on the Mediterranean Sea water properties is a crucial issue. Its thorough assessment is a prerequisite for mitigation of risks in terms of environmental and socioeconomic consequences. The Mediterranean region is particularly vulnerable to global changes for reasons related to its natural characteristics and the high density of population living along its coasts and exploiting its resources. A strong effort has been carried out in recent years to develop and improve skills of ocean circulation modeling. In this work, a set of new ocean - atmosphere coupled simulations for the Mediterranean basin run under different RCP scenario has been analyzed.

Historical and projected 3D temperature and salinity fields have been evaluated in order to assess the accuracy of the models reproducing the Mediterranean properties, and the reach of the possible future changes. The evaluation has been focused on the temperature and salinity anomalies, the heat and salt budgets and the evolution of the properties and formation mechanisms of the most characteristic water masses of the basin. The obtained results have been compared with those achieved by previous forced simulations in order to assess the improvements and flaws of these new simulations.