MEDITERRANEAN SEA SURFACE VARIABILITY FROM COMBINED ALTIMETER DATA

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During the last two decades, a considerable amount of work has been dedicated to the study of the Mediterranean Sea circulation. As described in the past, the Mediterranean surface circulation is composed of subbasin scale eddies interconnected by intense currents. Then, the associated variability is a complex combination of a wide range of spatial and temporal scales. 1/8° x 1/8° weekly combined maps of altimeter data (TOPEX/Poseidon, ERS1/2, and more recent Geosat Follow-On and Jason1) are used to lead a statistic study of the whole Mediterranean Sea surface variability over the 1993-2002 period. The main objective is to characterise the surface circulation variability in the Mediterranean Sea, in terms of variance, EKE, annual and semi-annual cycle of the sea level. This allows us to better monitor the main structures of the circulation such as the Alboran gyres and the Ierapetra eddy. More, an EOFs analysis allows us to extract the main spatial and temporal variability modes of the Mediterranean sea. In particular, it determines the respective part of the interannual variability with respect to the seasonal cycle.