

Mediterranean Sea level anomalies and three dimensional structure of the sea from LIWEX and ERS-SYMPLEX experiments

Daniele Iudicone	Istituto di Fisica dell'Atmosfera, P.le L. Sturzo 31, 00144 Roma, Italy danieleoceano.ifa.rm.cnr.it
Bruno Buongiorno Nardelli	Istituto di Fisica dell'Atmosfera, P.le L. Sturzo 31, 00144 Roma, Italy brunooceano.ifa.rm.cnr.it
Simona Zoffoli	Istituto di Fisica dell'Atmosfera, P.le L. Sturzo 31, 00144 Roma, Italy simonaoceano.ifa.rm.cnr.it
Rosalia Santoleri	Istituto di Fisica dell'Atmosfera, P.le L. Sturzo 31, 00144 Roma, Italy liaoceano.ifa.rm.cnr.it
Salvatore Marullo	ENEA Centro Ricerche Casaccia, via Anguillarese 301, 00060, S. Maria di Galeria (Roma), Italy salvacanaletto.casaccia.enea.it

Abstract

LIWEX and ERS-SYMPLEX data have been used to verify the performance of ERS and TOPEX/POSEIDON altimeters in the Mediterranean Sea. LIWEX experiment has been done during Winter-Spring 1995 in the Levantine basin to study the Levantine Intermediate Water formation and spreading. Although LIWEX experiment has been not designed for altimeters validation activity, the hydrographic data collected during this experiment firstly suggested the good correlation between dynamical height and Sea Level Anomalies in the Mediterranean Sea. The ERS-SYMPLEX experiment has been carried out in the Sicily Channel during April-May 1996 to compare Sea Level Anomalies obtained from ERS-1/2 and TOPEX/POSEIDON altimeters with in situ data. During the cruise XBT and CTD casts have been densely done (about each 5 km) along all ERS-1/2 and TOPEX/POSEIDON tracks at the same time of each satellite pass. Measurements along satellite tracks have been repeated in order to relate differences between sea level measured by two altimeter passes and differences between dynamic heights derived from two corresponding hydrographic sections. Dynamic height have been calculated from CTD data and from XBT profiles using T-S (Temperature-Salinity) characteristics obtained by CTD casts performed along ERS-1/2 and TOPEX/POSEIDON tracks. The result of the comparison is very satisfactory and confirms the capability of the two altimeters to correctly detect both basin and mesoscale features of the Mediterranean circulation.

Keywords: Altimeter, Mediterranean, Oceanography, CTD, XBT, Sea Level

[an error occurred while processing this directive]