



Comparison of altimetric and tide gauges data with numerical modelling of physical coastal processes : methodology and results for the Ligurian sea and the Kerguelen region.

J. Bouffard (1), C. Maraldi (1)

(1) LEGOS

The excellent spatial and temporal resolution of satellite altimetry means that sea surface topography is well sampled for the deep oceans. However, the coastal ocean dynamics are much more complex, being characterized by a wide range of spatial and temporal scales, which are more difficult to observe with a classical altimetric product.

A coastal multi-satellite (Topex/Poseidon, Jason1, Envisat, GFO) altimetric data set has been derived from each mission's GDR products using a new processing strategy developed for coastal zone applications. Particular attention is given to the tide and inverse barometer corrections using a high-resolution 2D gravity wave model (MOG2D).

In order to validate this multi-satellite altimetric data set, sea surface height data have been compared with tide gauges records in two coastal regions : the Western Mediterranean Sea and the South Indian Ocean at Kerguelen, Crozet and Saint-Paul Islands.

We also focus on techniques which combine altimetric and tide gauges data in order to better capture physical coastal processes such as wave propagations or coastal currents. The spatial and temporal scales accessible through these observing systems are then compared to numerical barotropic and 3D coastal models.