Wave climate and prediction of the Spanish Mediterranean coast

A. Sanchez-Arcilla, R. Bolaños, D.Gonzalez-Marco, J. Gomez

International Centre for Coastal Resources Research (CIIRC), Laboratori d'Enginyerria Maritima (LIM/UPC), Barcelona, Spain

(agustin.arcilla@upc.edu)

Waves conditions of the Northern Spanish Mediterranean coast reflect the variability of meteo-oceanographic patterns. They are conditioned by the presence of sharp gradients in orography and by the relatively small sized low pressure centres which may travel in any direction or even recirculate in the North-western Mediterranean. This leads to a sort of "torrential" like wave climate difficult to characterize both in physical and statistical terms.

The paper will discuss both aspects in terms of i) Statistical distributions, particularly those of extreme values ii) Wave forecasting, particularly for the short duration wave storms commonly encounter in this part of the Mediterranean.

The paper will use results and also present the XIOM network of buoys deployed along the catalan coast. It will also use results from the operational predictions carried out jointly by the Catalan meteorological service (Servei Meteorològic de Catalunya) and CIIRC (International Centre for Coastal Resources Research). This predictions can be seen at http://www.boiescat.org .

The talk will end with some conclusions on the difficulties to analyse wave forecasting and climate in semi-enclosed sea domains.