

INTERCOMPARISON OF 6 WAVE MODELS AT THE CATALAN COAST

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Abstract

In the framework of the FIELD_AC project, wave conditions at the Catalan Coast were modelled for a five week period (March 11 – April 18, 2011) by six European institutions using different state of the art wave modeling set-ups. During that period wave measurements at 4 locations relatively close to the coast were available for comparison.

The meteo-oceanographic observations included both storm and anticyclonic conditions. High resolution wind fields were made available from the Barcelona Supercomputer Centre and 4 of the 6 groups used these winds to force their wave models. The two other wave model set ups were driven by winds from another source. The model outputs together with the measurements provided an interesting dataset for a qualitative and quantitative analysis.

Although correlation and other classical statistical parameters like bias and rmse indicate considerable model skill for all wave model set-ups used in reproducing the wave measurements, quite remarkable differences were found between measurements and model and between model and model even when they are driven by the same winds. A synthesis of the results of this exercise will be shown. Discrepancies will be highlighted and some limitations in coastal wave modeling will be formulated.

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