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# Implementation and test of a coastal forecasting system for wind waves in the Mediterranean Sea

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A coastal forecasting system has been implemented in order to provide a coverage of the whole Mediterranean Sea and of several enclosed coastal areas as well. The problem is to achieve a good definition of the small scale coastal processes which affect the propagation of waves toward the shores while retaining the possibility of selecting any of the possible coastal areas in the whole Mediterranean Sea. The system is built on a very high resolution parallel implementation of the WAM and SWAN models, one-way chain-nested in key areas. The system will shortly be part of the ISPRA SIMM forecasting system which has been operative since 2001. The SIMM sistem makes available the high resolution wind fields (0.1/0.1 deg) used in the coastal system.
The coastal system is being tested on several Italian coastal areas (Ligurian Sea, Lower Tyrrenian Sea, Sicily Channel, Lower Adriatic Sea) in order to optimise the numerics of the coastal processes and to verify the results in shallow waters and complex bathymetries. The results of the comparison between hindcast and buoy data in very shallow (14m depth) and deep sea (150m depth) will be shown for several episodes in the upper Tyrrenian Sea.