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Time series comparison of the SIMM's WAM forecasts and the RON buoy observations along the Italian coasts

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An integrated numerical model system, called Sistema Idro-Meteo-Mare (Hydro-Meteorological-Marine Forecasting System–SIMM) for hydro-meteorological and marine forecasting over the Mediterranean basin is operational at APAT since the late year 2000. The model chain includes the QBOLAM meteorological model (covering all the Mediterranean basin with a 10-km grid size); the wave model WAM, which predicts the sea state with the same resolution over all the Mediterranean Sea; the ocean model POM for the Adriatic Sea surface height forecast; and the finite-element model VL-FEM for the forecast of the high tide events in the Venice Lagoon.

In the framework of the SIMM verification, the significant wave height and mean wave direction parameters modelled by WAM have been verified against buoy observations belonging to the APAT's National Buoys Network (Rete Ondametrica Nazionale–RON) and available along the Italian coasts. In this study, the ECMWF WAM forecasts (with 0.25° grid spacing) have been considered as well. Data involved in this study cover a period of two years starting from October 2003 to October 2005. A synthetic description of available data is also given.

Different set of verification measures are proposed and used. Results are contrasted and compared with previous verification analysis obtained in the first two years of the SIMM operational period.