



Wave measurements and models in the Tyrrhenian Sea

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A qualitative and quantitative comparisons of the wave measurements obtained from HF radars (25 MHz SeaSonde manufactured by CODAR Ocean Sensors Ltd.) and wave model output (Wavewatch III) is presented.

A network of HF radars has been operating in the Gulf of Naples (GoN) (Southeastern Tyrrhenian Sea) since 2004. HF radars use first-order echoes to determine surface currents, while second-order ones can be exploited to estimate the main parameters characterizing the wave field: wave direction, significant height (H_s) and period (p). The WavewatchIII model is operational at University of Genoa (DICCA), with a 10 km grid resolution over the Mediterranean basin. A nested grid of 2 km resolution covers the Northern Tyrrhenian Sea and the Ligurian Sea. Wind forcing is obtained by means of WRF runs with 10 km grid resolution for the Mediterranean basin and with 3.3 km grid resolution for the Tyrrhenian Sea.

The analysis aims at investigating the agreement of wave measurements from the two platforms in normal condition and critical environmental conditions (e.g. coastal storm). The results show good consistency, and open the way to future integrations of the two systems.