



“Gheorghe Asachi” Technical University of Iasi, Romania



MODELLING WIND WAVES IN THE ROMANIAN COASTAL ENVIRONMENT

Liliana Rusu*, Angela Ivan

“Dunarea de Jos” University of Galați, 47 Domneasca Street, 800008 Galați, Romania

Abstract

The present work presents a SWAN model (Simulating Waves Nearshore) implementation focused on the nearshore of the Black Sea Western coast. The global implementation of the SWAN model, previously calibrated for the entire Black Sea basin, is used as driver. A first area of medium resolution, that covers all the West coast of the sea, is nested into the global model. The wave observations made at the Gloria drilling unit, located in the central part of the area was considered as a check point, both for the wind input and for the wave model output. Subsequently two higher resolution areas were nested, as a third level, to cover the Romanian and Bulgarian coastal areas, respectively. Accurate estimation of wind wave characteristics in coastal environment is of considerable importance because it can help in case of environmental alerts for assessing the oil spills propagation and also to estimate the wave impact on the costal and marine structures.

Key words: Black Sea, coastal environment, SWAN, wave spectrum, wind waves

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* Author to whom all correspondence should be addressed: e-mail: liliana.rusu@ugal.ro; Phone: +40-732121775; Fax: +40-236-461353