

Deriving Nearshore Wave Climate along South African Coast

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Abstract

The present study addressed aspects of the highly interrelated study area of coastal safety and vulnerability, climate change and setback lines for South African coast. A medium resolution numerical wave analysis was undertaken, in the form of setting up over 20 numerical wave models (at 0.5 km numerical grid intervals) for particular areas. Each model covered an approximate area of 100 km along the shoreline. The locations cover the major municipal regions as well as selected rural coastal towns and areas with small craft/fishing harbours or slipways. This ambitious project was done to provide medium resolution wave climate input for the determination of, for example, wave run-up around the South African coast. Extreme wave heights were also estimated using a statistical extreme value analysis procedure. This information is ideally suitable for (amongst others) conducting coastal vulnerability assessments and for deriving setback lines in particular areas along the South African coast.