(1) SWAN – Simulating WAves Nearshore

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(3) Available modes for the model runs: Research and Operational

(4) Components & processes: Hydrosphere & Physical

(5) Brief model description

SWAN (acronym for Simulating WAves Nearshore) is a third-generation wave model, developed at Delft University of Technology (http://www.swan.tudelft.nl), that computes random, short-crested wind-generated waves in coastal regions and inland waters. It incorporates the state-of-the-art formulations for the deep water processes of wave generation, dissipation and the quadruplet wave-wave interactions from the WAM model (Komen et al., 1994). In shallow water, these processes have been supplemented with the state-of-the-art formulations for dissipation due to bottom friction, triad wave-wave interactions and depth-induced breaking (Booij et al., 1999). SWAN model solve the spectral action balance equation without any a priori restrictions on the spectrum for the evolution of wave growth. SWAN source code and more information about the model you can find at http://swanmodel.sourceforge.net/. This model is widely used all over the world for the calculation of wave parameters on various scales (Akpinar et al., 2012; Arkhipkin et al., 2014; Rusu, 2011; Zijlema, 2010). SWAN model used for investigations of wave climate as a marine component of PEEX. The main results of wind wave climate investigations for Arctic region and the Baltic Sea was presented in papers [Medvedeva et al., 2015; Myslenkov et al., 2015; Myslenkov et al., 2016; Kislov et al., 2016; Korablina et al., 2016].

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