

**(1) WAVEWATCH-III –**

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

**(4) Components & processes:** Hydrosphere & Physical

**(5) Brief model description**

WAVEWATCH III is a third-generation wind-wave modeling framework. While code management of this system is undertaken by the National Center for Environmental Prediction (NCEP) the model development relies on a community of developers. It is based on WAVEWATCH I and WAVEWATCH II as developed at Delft University of Technology, and NASA Goddard Space Flight Center, respectively. WAVEWATCH III differs from its predecessors in all major aspects; i.e., governing equations, program structure, numerical and physical approaches. This model is based on a numerical solution of the equation of the spectral wave energy balance (Tolman, 2014). WAVEWATCH III source code and more information about the model you can find at <http://polar.ncep.noaa.gov/waves/wavewatch/>. WAVEWATCH III model used for investigations of wave climate as a marine component of PEEEX. The main results of wind wave climate investigations for Arctic region was presented in papers [Myslenkov et al., 2018; Myslenkov et al., 2018].

References:

- Tolman H. L., User Manual and System Documentation of WAVEWATCHIII Version 4.18, NOAA/NWS/NCEP/MMAB Technical Note (2014).*
- Myslenkov, S., Markina, M., Kiseleva, S., Stolarova, E., Arkhipkin, V., and Umnov, P., 2018: Estimation of available wave energy in the Barents sea. Thermal Engineering (English translation of Teploenergetika) Vol. 56, № 7, P. 411–419.*
- Myslenkov, S., Medvedeva, A., Arkhipkin, V., Markina, M., Surkova, G., Krylov, A., Dobrolyubov, S., Zilitinkevich, S., and Koltermann, P., 2018: Long-term statistics of storms in the Baltic, Barents and White Seas and their future climate projections. Geography, Environment, Sustainability V.11, №1, P. 93–112.*