This study is aimed at developing an operational oceanographic system for the Russian sector in the Gulf of Finland and South-Eastern part of the Baltic Sea for operational forecast of hydrodynamic and ecosystem parameters on the basis of high and ultra-high spatial resolution models. The system is presented as a complex of regional and local models; for which a coupled modelling integration at boundary conditions exchange is fulfilled. The models share common mathematical formulation of general motion equations and a unified realization on the basis of programme code modelling modules designed for the ocean modelling – NEMO. The regional model of the Baltic Sea circulation is complemented by a module for the inert matter transport simulation. The latter is set up on the basis of a matter turbulent diffusion model with the use of two consistent equation systems: deterministic and stochastic. The designed operational system consists of two subsystems: operational oceanographic system of the coastal areas of the Baltic Sea and an expert-analytical system of operational monitoring of the aquatic environment and effective response to accidents at sea.

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