Investigation of the Baltic Sea water dynamics in various ranges of spatio-temporal scales using the model INMOM.

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The purpose was developing two regional circulation models: the first one is for the Baltic Sea and the second one is for the Neva Bay. To achieve this goal we used the ocean general circulation model INMOM developed in INM RAS. Comparison of the sea surface heights simulated by the Baltic Sea model and ones measured in coastal areas showed us good agreement of the data. Correlation coefficients between the observed and simulated data reach 0.7-0.87. Model realistically reproduces the quasi-stationary circulation of the Baltic Sea.

Comparison of the simulated salinity with the observations from the station Darss Sill showed us that the model can reproduce North Sea water inflows.

For the Neva Bay model, with spatial resolution of 100-150m, comparison of the simulations and observations in coastal areas showed us that the model adequately reproduces fluctuations in the Gulf of Finland.The correlation coefficient between the measurements and simulations is 0,85-0.95.