



On the proper choice of wind stress drag coefficient for ROMS model in the numerical simulation of the Baltic variability

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Baltic Sea circulation is largely dominated by the wind forcing. Changes in the wind regimes may influence strong variability in surface currents and, thus, accurate representation of the wind forcing is critically important for the accurate simulation of the Baltic Sea circulation. We used ROMS for simulation of the dynamics of Baltic Sea and analysed the sensitivity of the results to the formulation of surface wind stress for which different formulations of the drag coefficients were tested. Surface wind speed has been taken from CFSR reanalysis. The main focus of the study is on the representation of statistical characteristics of the sea level variability. The reliability of simulations with different wind stress formulations has been tested against the data from 40 tide gauge stations in the Baltic Sea.