

EGU21-9612

<https://doi.org/10.5194/egusphere-egu21-9612>

EGU General Assembly 2021

© Author(s) 2021. This work is distributed under the Creative Commons Attribution 4.0 License.



Application of the Regional Ocean Modelling System (ROMS) for Baltic Sea area

Maciej Muzyka, Jaromir Jakacki, and Anna Przyborska

Institute of Oceanology of Polish Academy of Sciences, Sopot, Poland (mmuzyka@iopan.pl)

The Regional Ocean Modelling System has been begun to implement for region of Baltic Sea. A preliminary curvilinear grid with horizontal resolution ca. 2.3 km has been prepared based on the grid, which was used in previous application in our research group (in Parallel Ocean Program and in standalone version of Los Alamos Sea Ice Model - CICE). Currently the grid has 30 sigma layers, but the final number of levels will be adjusted accordingly.

So far we've successfully compiled the model on our machine, run test cases and created Baltic Sea case, which is working with mentioned Baltic grid. The following parameters: air pressure, humidity, surface temperature, long and shortwave radiation, precipitation and wind components are used as an atmospheric forcing. The data arrive from our operational atmospheric model - Weather Research and Forecasting Model (WRF).

Our main goal is to create efficient system for hindcast and forecast simulations of Baltic Sea together with sea ice component by coupling ROMS with CICE. The reason for choosing these two models is an active community that takes care about model's developments and updates. Authors also intend to work more closely with the CICE model to improve its agreement with satellite measurements in the Baltic region.

Calculations were carried out at the Academic Computer Centre in Gdańsk.