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Black and Azov Sea circulation numerical modelling on the basis of splitting technique

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The problem of the Black and Azov Sea dynamics numerical modeling is considered. The INMOM (Institute of Numerical Mathematics Ocean Model) is used. The INMOM is based on the multicomponent splitting technique and has a flexible modular structure. The splitting into physical processes and spatial coordinates is used. The entire system is split into a number of energetically balanced modules. Each of them can be split into modules with a simpler structure.

A numerical experiment consists in simulating the Black and Azov sea hydrothermodynamics with a spatial resolution 4 km and 40 σ-levels non-uniformly distributed over the depth. The atmospheric forcing is defined using the Era-Interim datasets with a spatial resolution 1.5˚x1.5˚. The integration period was 2006 - 2007. The results of numerical experiments are in good agreement with observational data and with the results of the model developed in Marine Hydrophysical Institute, National Academy of Sciences of Ukraine.

The presented model is planned to use in further development of monitoring and real-time forecasting systems.