Iceberg drift modelling in the Barents Sea

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Iceberg drift model is developed in the N.N.Zubov State Oceanographic Institute (SOI) of the Roshydromet. The
model is forced by atmospheric reanalysis data from the Weather Research and Forecasting model (WRF) and
by ocean and sea ice data from the Institute of Numerical Mathematics Ocean Model (INMOM). The iceberg
drift model is validated using observations of iceberg drift trajectory obtained during the annual expedition of RV
Lance in the beginning of May 2009 in the Barents Sea. Field data collected in this expedition are also used for
the modelling of iceberg drift.

Verification tests with hindcast data from selected atmospheric and oceanic models and data from field studies
were carried out to compare model predictions with field observations. Two different approaches are used to
simulate iceberg drift. The first approach is a variation of wind and water drag coefficients in order to simulate the
observed iceberg drift trajectory. High uncertainties in environmental driving forces and in iceberg shape and mass
resulted in using ensemble forecast technique, which is the second approach to simulate the iceberg trajectory.
The presented iceberg drift model shows a good capability of reproducing the observed iceberg drift.