

# SEA-ICE IN THE FUTURE GLOBAL $\frac{1}{4}^{\circ}$ OCEAN FORECASTING SYSTEM PROTOTYPE OF THE MERCATOR PROJECT

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## ABSTRACT

By the time where high latitudes are strongly affected by climate warming, where the international polar year in 2007 should initiate numerous research programs and public campaign, the future global Mercator global ocean circulation forecasting system aimed to represent the sea ice, one of the essential components of the polar climate system. The release of a new system comprising a global "eddy permitting" ocean coupled to a thermodynamic-dynamic sea ice model is scheduled for 2006.

The sea ice numerical model chosen for the future prototype is briefly described. Experiments performed with the ocean/sea-ice coupled model at different resolution ( $2^{\circ}$  and  $\frac{1}{4}^{\circ}$ ) with different configuration are presented. Results focus on the abilities of the sea ice model to reproduce the seasonal cycle of sea ice extents and the mesoscale processes such as the Antarctic coastal polynias.