

Sea ice kinematics around the Ronne polynia derived from satellite images and model simulations – first results of a comparison

T. HOLLANDS^{1*}, VERENA HAID¹, WOLFGANG DIERKING¹

¹*Alfred Wegener Institute for Polar and Marine Research, Bussestraße 24, 27570 Bremerhaven, Germany*

**corresponding author: thomas.hollands@awi.de*

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A coastal polynia occurs when sea ice is moved away from the coast by strong offshore winds. Polynias are of great importance for the ice production within the region as well as for the heat balance and the deep bottom water formation.

To estimate the ice production and export from the polynia region, it is necessary to know the motion of the sea ice. Two time series of satellite images from the Ronne polynia in the Weddell Sea, Antarctica, and drift vector fields calculated from these time series were analysed. The drift fields were compared with high resolution model results from the Finite Element Sea Ice Ocean Model (FESOM). Differences between the model and observation data will be shown and possible reasons will be discussed. The objective of the project in cooperation with the developers of FESOM is to identify improvements of the model including parametrizations and input parameters.