



## **Kara Sea Polynyas in High Resolution**

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The shelf seas of the Arctic Ocean are known to produce large quantities of sea-ice. The Kara Sea is one of these areas with a previously estimated  $100$  to  $350 \text{ km}^3 \text{ a}^{-1}$  ice export. We present here initial results from a new study of the Kara Sea using a high resolution coupled ocean-sea ice model. The focus of the study is on ocean-ice interaction and sea-ice and dense water formation in polynyas. Validation of polynya representation in the model will be done through satellite observations. The usage of an alternate adaptive sea ice rheology is suggested for a better representation of the ice at high resolution (2.5 km).