



Paramerisation of frazil ice formation in leads

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Frazil ice is an important constituent of Antarctic sea ice mainly formed in open water areas. Its formation rate is much higher than that of congelation ice necessitating inclusion of a frazil ice model into sea ice codes. Sea ice motion and water currents advect some of the frazil ice formed in leads away which affects the amount of frazil ice accumulating in leads. We describe a simple box model of frazil ice dynamics under a lead consisting of two stages: cooling down of the mixed layer beneath the lead followed by a steady state frazil ice formation accounting for advection. The model has been incorporated into sea ice numerical model CICE and we present results for the Antarctic sea ice.