



On the influence of tides on sea-ice production in the Arctic Ocean.

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Tidal motion influences sea ice distribution and generates periodic leads in the pack ice. This affects the heat exchange between ocean and atmosphere, and the rate of ice formation and associated salt input to the upper ocean.

Here we study the influence of tides on thermodynamic sea-ice growth using the North Atlantic/Arctic Ocean Sea-Ice Model with 1/12 of degree resolution. The later model includes routines from the Arctic Ocean Tidal Inverse Model (AOTIM5) at 5Km resolution to reconstruct tidal velocities.

Two time periods (March 1992, 2008) with different ice thickness are compared in the Arctic Ocean, with special focus on the Siberian shelf seas and the shelf break.