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Influence of changed ice properties on the Atlantic Water inflow and the properties of the Atlantic Water layer in the Arctic Ocean in a model

Cornelia Koeberle

Alfred-Wegener-Institut fuer Polar- und Meeresforschung, Klimasystem, Bremerhaven, Germany
(ckoeberl@awi-bremerhaven.de)

Change of some parametrized sea ice properties in a high resolution version of NAOSIM (North Atlantic/Arctic Ocean Sea Ice Models) leads to substantial changes in the amount of ice volume and ice area. These variations in size and structure span a range comparable to the observed and predicted ones respectively. In a model one can directly link such changes to changes in ocean properties.
The Atlantic water forms a large reservoir of warm and saline water. It is mostly confined below the Arctic Halocline, only small parts of it creep up to the Arctic shelfs sometimes. Changes in amount and position of this warm water mass could influence e. g. the Arctic sea ice the properties of the out-flowing water mass or the travel time of this water through the Arctic Ocean.
We have incorporated an additional temperature anomaly tracer of Atlantic water entering the Arctic ocean. By means of this tracer we investigate the influence of the changes in the sea ice to the amount of inflowing Atlantic water, its pathways and and properties.