

Title:

Comparison of the Arctic sea ice extent and area time series obtained from different algorithms for sea ice concentration using passive microwave sensor data.

By

N. Ivanova and Ola M. Johannessen,

Mohn-Sverdrup Center for Global Ocean Studies and Operational Oceanography / Nansen Environmental and Remote Sensing Center, Bergen, Norway

Abstract

Estimates of the sea ice concentrations in Arctic and therefore sea ice extent and area differ significantly dependently on which sea ice algorithm was used. In this investigation the data from the passive microwave sensor were used. The difference in retrieval from one algorithm to another leads to uncertainties in the ice change understanding and consequently in forecast of the sea ice characteristics for the future. The time series of the sea ice extent and area were obtained using several existing algorithms. It is suggested that apart from different calculation methods the algorithms can give discriminating results due to using of different input data rows of brightness temperatures. This investigation is aimed to understand probable causes of the disagreement in the algorithms on the basis of the sea ice extent and area values analysis.