Geophysical Research Abstracts
Vol. 19, EGU2017-6186-1, 2017
EGU General Assembly 2017

Influence of SST in the equatorial North Atlantic on warming and sea ice shrinking in the Arctic

Genrikh Alekseev, Natalia Glok, Anastasia Vyazilova, and Aleksander Smirnov
Arctic and Antarctic Research Institute, St.-Petersburg, Russian Federation (alexgv@aari.ru)

It is investigated the influence of SST anomalies in low latitudes of the North Atlantic on sea ice cover and surface air temperature in the Arctic. Sea surface temperature in the Atlantic Ocean from HadISST dataset, series of water temperature in the section along the Kola meridian, sea ice extent and surface air temperature in the Arctic were used. Multivariate correlation analysis was applied to determine the maximum correlation between SST anomalies and climate characteristics and corresponding delays. It is found intimate link between change of Atlantic SST in low latitudes and sea ice extent in the Arctic with correlation coefficients up to 0.90 and delays up to 3 years. The mechanism of remote Atlantic SST influence on anomalies in the Arctic Ocean is proposed that incudes interaction between atmospheric and oceanic circulation modes.