



Lead Author e-mail: maksh@aari.ru

Title: *Russian drifting stations in XXI century*

Vladimir Sokolov¹, Alexander Makshtas¹

¹*Arctic and Antarctic Research Institute, St. Petersburg, Russia*

Beginning 2003 Roshydromet reestablished the program of organization in the Central Arctic the field works at the consecutive drifting stations "North Pole". The review of the main directions of field investigations executed on the drifting stations "North Pole - 32" - "North Pole - 40" in 2003 - 2012 years is presented. New instruments, using for observations are described. Some results in polar oceanography, sea ice studies, processes of energy - gas exchange between ocean and atmosphere in presence of sea ice cover are shown.

In addition to standard meteorological and aerological observations the complex study the characteristics of atmospheric surface and boundary layers, spectral measurements of incoming, reflected and penetrated through ice solar radiation, fluxes of long-wave radiation, and morphological properties of snow - sea ice cover are executed. In 2007 - 2011 the boundary layer structure, including low level jets and surface inversions had been investigated in collaboration with scientists from Alfred Wegener Institute (AWI Potsdam, Germany). Four years of continuous measurements of low cloudiness had been executed in collaboration with ESRL NOAA. Data of observations are used for examination of existing parameterizations of air - sea interaction processes in high latitudes. Importance of standard meteorological observations in situ for validation of different atmospheric models is shown by comparison of real and NCEP/NCAR data.