

Russian Meteorological Observations in the Arctic
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The main source of meteorological information in the Russian Arctic is a network of polar weather stations. Standard meteorological observations are presently made at 63 stations (either 4 or 8 times per day) and 15 of these stations launch radiosondes (either 1 or 2 times per day). Before the 1990s the network was considerably larger with 125 meteorological stations, 41 of which had regular radiosonde launches. The positions of working and closed stations are presented in Figure 1. Recently Roshydromet launched a program to restore and to modernize this meteorological network. In particular, staffed stations have been reopened on Belyi Island (73°20'N, 70°03'E) and Kheisa Island (80°037'N, 58°003W) and a number of automated weather stations have been installed at locations of preexisting stations.

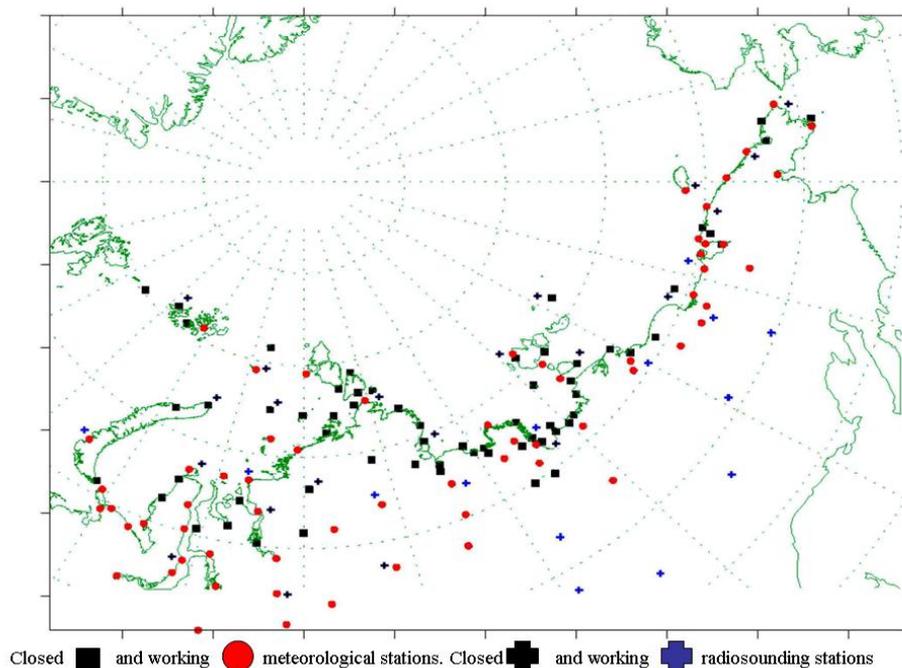


Figure 1. Position and status of Russian weather stations as of the end of 2007

Beginning in 2006 Roshydromet began a partnership with NOAA and NSF to execute the joint project “Establishing a Modern Weather Station and Research Observatory in Tiksi, Russia”. The main goals of the project:

- To establish a upgraded hydro-meteorological research station in Tiksi Russia with modern communications, power, laboratory and office space that will support collection of long-term weather and climate grade records of the atmosphere and associated land/ocean parameters;
- -to integrate the Tiksi Station measurements into international observing networks for example, the Global Atmosphere Watch, the Baseline Surface Radiation Network, the Climate Reference Network, the Global Terrestrial Network for Permafrost and the Micropulse Lidar Network;
- to develop a joint international science program between Russia, the U.S., Finland, and other interested international partners that will contribute to the International Polar Year and beyond.

A new weather station/research facility was constructed in the spring of 2007 and a specialized clean air facility is being completed the summer of 2008. The official opening of Hydrometeorological Observatory in Tiksi is planned for the summer of 2009.

In addition to this network of land-based polar stations Roshydromet reestablished the program (“North Pole”) of continuous and consecutive drifting ice stations in 2003; this program previously operated from 1952 to 1991 in the Central Arctic Basin. In addition to standard meteorological observations, these drifting ice stations support the measurement and study of: study of the atmospheric boundary layer; oceanographic observations; investigations of evolution of the morphology of sea ice cover; study of biological characteristics of sea ice; study of plankton and benthos communities; investigations of solid particles in the snow cover and sedimentary material transported by the ice cover; ecosystem investigations; and sub-pixel satellite validation studies focused on the study of sea ice characteristics. In September 2008 the next drifting station “North Pole 36” will be launched for the next one-year drift