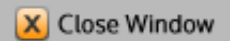




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**CONTROL ID:** 1465155**TITLE:** CHANGES IN THE WIND REGIME OVER NORTHERN EURASIA

**ABSTRACT BODY:** The wind regime of Russia varies a great deal due to the large size of the country's territory and variety of climate and terrain conditions. Changes in the regime of surface wind are of great practical importance. They can affect heat and water balance. Strong wind is one of the most hazardous meteorological event for various sectors of economy and for infrastructure.

At meteorological stations wind speed and wind direction are measured at the height of 10-12 meters over the land surface with the help of wind meters or wind wanes. Due to the turbulent state of the atmosphere wind speed and wind direction in each moment of time fluctuate considerably about the average value. Therefore, the average wind speed over the period of either 2 or 10 minutes (depending on the technical capacity of the instrument used for measurements) is measured, the maximum value of wind speed (gust wind speed) in the same periods of time is determined as well as the average wind direction over the period of 2 minutes. Calculations were made on the basis of data for the period of 1980-2011. It allowed the massive scale disruption of homogeneity to be eliminated and sufficient period needed to obtain sustainable statistic characteristics to be retained. Data on average and maximum wind speed measured at 1457 stations of Russia were used. The analysis of changes in wind characteristics was made on the basis of point data and series of average characteristics obtained for 18 quasi-homogeneous climatic regions. Statistical characteristics (average and maximum values of wind speed, prevailing wind direction, values of the boundary of the 90%, 95% and 99%-confidence interval in the distribution of maximum wind speed) were obtained for all seasons and for the year as a whole. Values of boundaries of the 95% and 99%-confidence interval in the distribution of maximum wind speed were considered as indicators of extremeness of the wind regime. The trend of changes in average and maximum wind speed was assessed with a linear trend coefficient. A special attention was paid to wind changes in the Arctic where dramatic changes in surface air temperature and sea ice extent and density have been observed during the past decade.

The analysis of the results allowed seasonal and regional features of changes in the wind regime on the territory of the northern part of Eurasia to be determined. The outcomes could help to provide specific recommendations to users of hydrometeorological information for making reasonable decisions to minimize losses caused by adverse wind-related weather conditions.

**CURRENT SECTION/FOCUS GROUP:** Global Environmental Change**CURRENT SESSION:** GC019. Environmental, Socio-economic and Climatic Change in Northern Eurasia and Their Feedbacks to the Global Earth System**INDEX TERMS:** [1637] GLOBAL CHANGE / Regional climate change, [3305] ATMOSPHERIC PROCESSES / Climate change and variability, [3309] ATMOSPHERIC PROCESSES / Climatology.**AUTHORS/INSTITUTIONS:** O. Bulygina, N. Korshunova, V. Razuvaev, climatology, RIIHMI-WDC, Obninsk, RUSSIAN FEDERATION;**SPONSOR NAME:** Olga Bulygina**CONTACT (E-MAIL ONLY):** bulygina@meteo.ru**TITLE OF TEAM:**