A strong blocking anticyclone has formed over European Russia in third decade of June 2010 and persisted for almost two months. This circulation anomaly resulted in anomalously hot and dry weather over the region. In Moscow mean July temperature exceeded climatological value by record 7.8°C. This anomaly is the largest for the period of instrumental observations (more than 130 years).

Our estimates show that anomalies of the spatially averaged air temperature (AT) from the NCEP/NCAR reanalysis over European Russia in July and August 2011 were more than three times larger than standard deviations of the respective time series. The EOF analysis of the sea level pressure (SLP) performed for the anomalously hot summers has revealed that the EOF-1, describing 24% of SLP variability, is characterized by dipole structure with opposite SLP variations over Greenland and eastern North Atlantic/northern Europe. The second EOF explaining 18% of SLP variability is represented by the wave train structure extending from the North Atlantic into the Arctic region.

Analysis of intraseasonal evolution of the spatially averaged AT over European Russia has revealed its consistency with AT variability observed at the several randomly selected meteorological stations. It is shown that regional AT variability was strongly linked to the EOF-1 of SLP obtained from analysis of the daily data. For entire summer season correlation between regional AT and the NAO index was relatively large (R=0.57). However it varied significantly during the season and the largest correlation was revealed in late July - mid August.