

**Great Russian Drought of 2010: historical analogs, circulation mechanisms, consequences**

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The large-scale 2010 drought has hit the entire Eastern Europe in July-August, with the highest temperature anomalies and longest drought period centered over Western Russia. Without exaggeration, it can be named as Great Russian Drought of 2010. In 26 administrative regions of the country, absolute temperature records were broken that year, and new highest temperature for the country has been recorded too. The drought has resulted in numerous forest and peat fires, so huge spaces of the country were covered by smoke, causing health problems for hundreds of thousands of people. The harvests were very low too, which forced the authorities to ban the grain export, thus influencing global food markets. Although there were no analogs of this drought in the history of meteorological observations (i.e. since the second half of 18th century), qualitatively similar situations were recorded in the annals compiled at old Russian monasteries. Since 12th century, several dozens of strong droughts in various parts of Russia have been recorded. Especially frequent droughts happened in 14th - 16th centuries, sometimes 3-4 times per century. So, during some previous epochs, the large-scale droughts were widespread in the Eastern Europe. A study on large-scale atmospheric circulation mechanisms influencing summer air temperature in Western Russia was carried out with advanced statistical methods (principal component analysis, stepwise multiple regression). The results imply that since mid-1980s, about 75% of the July air temperature in Moscow (which, in turn, is representative for most of the East European Plain) can be explained by the variability of the West Pacific (WP) circulation index. The latter mechanism is mostly responsible for circulation in the western part of North Pacific, but it also influences Europe's atmospheric flows via teleconnections. During the last 25 years, its role is significant in the summer temperature variations in Eastern Europe, although before mid-1980s WP was not significant factor in the temperature variability.