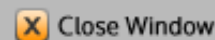




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**CONTROL ID:** 1486491**TITLE:** Droughts in East European Plain Since the Middle of 20th Century: Regional Changes and Mechanisms

**ABSTRACT BODY:** Detailed statistical study of atmospheric droughts over North Eurasia is carried out for the period 1950-2011 based on daily meteorological records. Criteria for the atmospheric droughts include both low precipitation and high maximum daily temperature. Regions with high frequency of the atmospheric droughts include south of East European plain, south of Western Siberia, and parts of Eastern Siberia and Far East. Large-scale atmospheric circulation situations favourable for the atmospheric droughts include combination of anomalous values of West Pacific and some other indices such as North Atlantic Oscillation, Polar-Eurasian, etc.

Changes of the atmospheric drought frequency over the North Eurasia during the last decades are explored and mapped. Overall, the frequency of the atmospheric droughts has increased, especially over certain parts of Siberia and Far East, as well as over East European Plain (the latter due to the 2010 event). To a significant extent, increase of the atmospheric drought frequency is related to the changes in the large-scale atmospheric circulation. The statistical relationships between the atmospheric drought frequency and atmospheric circulation indices can vary on the decadal scale. Since the beginning of 1980s, there is a significant trend in some of the circulation indices values, resulting in changes of the atmospheric droughts frequency over North Eurasia.

At the same time, some of the drought indices evaluated by monthly temperature and precipitation anomalies do not demonstrate significant anomalies in 2010 as compared to several other drought events (1936, 1938, 1972, etc.). Applicability of various monthly indices for the drought analysis in Eastern Europe is studied.

**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, [1812] HYDROLOGY / Drought, [4318] NATURAL HAZARDS / Statistical analysis, [4321] NATURAL HAZARDS / Climate impact.**AUTHORS/INSTITUTIONS:** A.B. Shmakin, V. Popova, A. Zolotokrylin, E. Cherenkova, Inst Geography - Lab Climatol, Russian Acad Sci, Moscow, RUSSIAN FEDERATION;**SPONSOR NAME:** Andrey Shmakin**CONTACT (E-MAIL ONLY):** andrey\_shmakin@mail15.com**TITLE OF TEAM:**



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