



## **Spatio-temporal dynamics and synoptic characteristics of wet and drought extremes in Northern Eurasia**

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Synoptical-statistical analysis has been conducted using SPI index calculated for 478 stations with records from 1966 through 2013. Different parameters of SPI frequency distribution and long-term tendencies were calculated as well as spatial characteristics indicating drought and wetness propagation. Results of analysis demonstrate that during last years there is a tendency of increasing of the intensity of draught and wetness extremes over Russia. There are fewer droughts in the northern regions. The drought propagation for the European territory of Russia is decreasing in June and August, and increasing in July. The situation is opposite for the wetness tendencies. For the Asian territory of Russia, the drought propagation is significantly increasing in July along with decreasing wetness trend. Synoptic conditions favorable for the formation of wet and drought extremes were identified by comparing synoptic charts with the spatial patterns of SPI. For synoptic analysis, episodes of extremely wet (6 episodes for the APR and 7 episodes for the EPR) and drought (6 episodes for the APR and 6 for the EPR) events were classified using A. Katz' typology of weather regimes. For European part of Russia, extreme DROUGHT events are linked to the weather type named "MIXED", for Asian part of Russia – the type "CENTRAL". For European part of Russia, extreme WET events associated with "CENTRAL" type. There is a displacement of the planetary frontal zone into southward direction approximately for 5-25 degrees relatively to normal climatological position during WET extreme events linked to «EASTERN» classification type. Intercomparison of SPI calculated on the base of NOAA NCEP CPC CAMS for the same period and with the resolution 0,5 degree, month precipitation data, Era-Interim Daily fields archive for the period 1979-2014 with the resolution 0,5 degree reanalysis and observational precipitation data was done. The results of comparative analysis has been discussed.