



Seasonal occurrence of extreme events on example of long-term hydrometeorological observations from small catchment

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Periodical occurrence of floods and droughts is one of disadvantageous phenomenon of Polish climate. Forecasting of climate change for Poland in first half of the 21th century indicate a probability of more frequent occurrence of droughts, which will have the consequences in water deficits in significant areas of the country. Runoff characteristics are important indicators of water resources. Long-term observations carried out in small catchments are an important source of informations of water regime.

The aim of the study was to analyze trends of occurrence floods and droughts in small, agricultural catchment of Zagożdżonka River, which is one of the few in Poland, with long-term records of rainfall and runoff. The catchment is located in central Poland, Mazovian Lowlands, about 100 km south form Warsaw. The area of the catchment till Płachty Stare station is 82 km² and 23.4 km² till Czarna station . The data used for statistical analysis of floods and droughts included 50 years (1963-2012) for Płachty Stare gauging station and the period of 22 years (1991-2012) for Czarna station. Based on daily hydrograph, floods and droughts were identified. In most cases the duration of floods and droughts is short (few days). Long-term floods occur in winter season and long-term drought occur in summer and autumn. In Płachty Stare decreased trend was indicated for number of days with flood discharge and increased trend was found for number of days with droughts. In Czarna gauging station opposite trends were found.

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