AN ASSESSMENT OF METEOROLOGICAL DROUGHT IN THE GROWING SEASON
IN LUBLIN POLESIE WITH SELECTED INDICES

Key words: days without precipitation, drought indices, meteorological drought

Summary

Meteorological drought frequency and intensity in growing seasons (IV-IX) of the years 1965-1998 were evaluated by 5 different methods: the sequences of days without precipitation (dry periods), the relative precipitation index RPI, the standardised precipitation index SPI, the probability distribution of precipitation p and the standardised climatic water balance KBW s. Meteorological data from the weather station at Sosnowica (central part of Lublin Polesie) was used for the assessment. Dry periods lasting 11-15 days, 16-20 days and above 20 days were distinguished, using Koźmiński's method of dry periods.

Meteorological drought frequency is 23% according to the dry periods method, 33% according to the RPI, 28% according to the SPI, 32% according to the probability p and 32% according to the KBW s method. The above differences show that minimum rainfall able to break a dry period is higher than the currently adopted value of 1.5-2.0 mm. Moreover, the comparison of KBW s and the SPI proves that the drought index derived from the complex of meteorological variables is different from the drought index based only on precipitation.

Address: doc. dr hab. J. Szajda, Instytut Melioracji i Użytków Zielonych, ul. Głęboka 29/2, 20-612 Lublin; tel. +48 (81) 532-92-51, e-mail: j.szajda@poczta.onet.pl