Analysis of spatial-temporal evolution of agricultural drought based on regional agricultural drought index

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ABSTRACT

In recent years, the frequency and intensity of drought in China are on the rise, and most of the major grain producing provinces are situated in the drought-prone areas, so agricultural drought has become one of the main factors restricting the agricultural production in China. In this paper, with Henan province being taken as the research area, the change trend of agricultural drought area of Henan province was analyzed, and the spatial-temporal evolution characteristics of Henan province were evaluated based on the regional agricultural drought index. The research showed that the inter-annual change of agricultural drought index showed a decreasing trend year by year (tendency rate was –0.12/10*a*), indicating that the drought degree decreased year by year. The east and south of North Henan, east and north of Eastern Henan, and north and east of Central Henan were mild drought-prone areas; the east of Western Henan, west and north of North Henan, and west of Central Henan were moderate drought-prone areas; the west of North Henan, west of Western Henan, and north of South Henan were severe drought-prone areas.

Keywords: Agricultural drought; Regional agricultural drought index; Evolution characteristics; Spatial and temporal distribution; Henan province

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