The Procedure of Detecting Drought Trend by Using Şen’s Innovative Trend Analysis Methodology

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Abstract

Drought is one of the most important phenomena for humans and living things. Especially in recent years, the effect of drought has reached levels that cannot be ignored. This situation causes negative effects on water resources. In order to minimize these negative effects, it is of great importance to know the trend of drought over time. Many methods are used in the literature to determine the severity of drought. The most widely used of these methods is the Standard Precipitation Index (SPI), which calculates based on precipitation data. There are different classifications for drought severity in the SPI method. Therefore, it is of great importance to know the individual trends for each classification. Classical trend-detecting methods (such as Mann-Kendall) require a separate analysis for each drought classification. However, with Şen’s Innovative Trend Analysis (ITA) method, it becomes possible to determine the trends for all drought classifications on a single graphic. In this way, the change of drought events over time can be easily determined for all drought classifications.

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