

## **Evaluation of Drought Situation and its Trend on the Basis of Drought Statistical Indexes (Case Study: South Kerman).**

### **Abstract**

Drought monitoring system is an important tool to management drought that using hydrologic and climatic parameters will can determination starting, ending and spatial developing of drought intensity. This system would be effective role in the determination of type and time activation drought if the contrast program to drought was available. The determination of drought indexes is an important step to evaluate of intensity drought. The drought indexes are using for quantity and evaluating drought in time and space scales. The main aim of this study is investigation of drought intensity in south of Kerman Province. Climatic information of five stations includes Chahrigan, Dehrood, Ganjabad, Fathabad and Jiroft were obtained with period 1988-1989 to 2012-2013. The six drought indexes including SPI, RDI, CZI, MCZI, ZSI and PNI were used for estimation of intensity drought and frequency of events. The severity drought for five stations in this region was obtained the basis of estimated values and available classification. The minimum rainfall theorem was used in the long period as highest and very highest hydrologic drought. The results showed the PNI index has the best performance in determination of drought intensity. SPI and ZSI indexes were showed similar performances and they were in the second ranking. RDI and CZI indicators also showed similar performance and were after SPI and ZSI indexes. The investigation of results also showed that MCZI provides weakest performance in estimating the severity of drought in the region. Finally, IDW and Kriging interpolation techniques were used to zoning and convert the point data to regional drought. The results showed that the obtained maps basis of Kriging interpolation method had more accuracy and certainty than IDW method.

**Key words:** drought intensity, SPI, RDI, CZI, MCZI, PNI, ZSI, interpolation, zoning



University of Zabol  
Graduate school  
Faculty of Water and soil  
Department of Range and Watershed Management

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**Supervisor:**  
Dr. N. Basirani

**Advisors:**  
S. Bigonah

**By:**  
S. Salehi

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