

## **Abstract**

The result of the interaction between drought and water cycle in nature environment is risky for the environment and threaten the life of any bio is. On the other hand due to the increasing demand for water consumption caused by the dramatic growth of the population and the shortage of water resources, the need to find the size of the bearing profile-making drought to evaluate the time and place of the nose and fitted this phenomenon in order to manage the crisis, essential and vital to be fitted. In this regard, the present study the performance of artificial neural network and adaptive fuzzy inference neural-system for nasal drought in Sistan and Baluchestan province using meteorological data of daily and monthly for a period of 30 years and on the basis of statistical indicators of the normal rainfall, drought for the standard percentage and the effective assessment of the drought. To check the efficiency of the model of the nervous system and its prspetron multi-layer fuzzy-adaptive measures, absolute error, root mean square error and correlation coefficient was used. The results indicate higher precision ANFIS model than ANN model in order to advance in the areas studied, fitted nose-drought. The highest accuracy of simulation modeling drought index, EDI occurred.

**Key words:**Drought, Drought index, Artificial intelligence, Adaptive Neuro-Fuzzy inference System, Sistan and Baluchistan Province.



**University of Zabol  
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**Supervisor:**

**Dr. A. Pahlavanravi**

**Advisors:**

**J. Piri**

**By:**

**Nasrin Ranjbar Shahraki**