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Drought Analysis in the Tuz Lake Basin, Central Anatolia, Turkey

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The research area, Tuz Lake Basin is located in Central Anatolia Region in Turkey. The drought is observed in this area with the result of the meteorological data analysis, satellite imagery and field research.
The aim of this study is to determine temporal and spatial characterists of the drought, frequency and extreme droughtness possibilities, drought period, amplitude of the drought and its severity which is observed in Tuz Lake within the context of climate change process effects in Turkey, by using Standart Precipitation Index (SPI) Palmer Drought Harshness Index, De Martonne and Erinç Method. Since the indexes which are used in the study have different parameters, not only meteorological results but also agricultural and hydrological drought results can be inferred. For this purpose, measurements of 12 meteorological stations in the basin between the years 1975-2015 will be studied applying the aforementioned methods in MATLAB. SRTM satellite images used in the study is provided by American Geological Survey (USGS). The findings from satellite imagery and meteorological data integrated into Geographic Information Systems Software ArcMap 10.1, then the effects of the drought to the Tuz Lake were analyzed. The findings of the analysis will be interpreted with the support of the field studies.