Abstract

Analisis Kekeringan Meteorologis di Wilayah Kabupaten Wonogiri

Karlina
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Telah dipertahankan di depan Dewan Penguji
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Drought is one of natural disaster occurences that affect many life aspects such as agricultural and economy. Beside that, drought is one of hazards that affected by extreme condition due to climate change. Wonogiri is one of district in Indonesia that have a high risk of meteorological drought. This area tends to have less rainfall than other areas that make the condition drier. This study is aimed to provide some information required in determining the drought disaster mitigation through analysis of drought disaster mitigation through analysis of the drought characteristic, for both historical and future condition.

Meteorological drought in this study was analyzed by using EDI and SPI method. Those methods use daily rainfall data as input of the calculation. For the historical condition analysis, the input is 12 years of daily rainfall recorded data from 1990 to 2001 in 15 stations. For the future drought assessment, the input is 90 years of daily rainfall which was generated by using climate model HadCM3 scenario A2 and B2. The future data prediction was done by using Automated Statistical Downscaling software. Statistical criteria i.e. RMSE, regression coefficient and standard deviation were used for testing the model accuracy. The drought coefficient obtained from analysis using EDI and SPI then was applied to make drought risk map using GIS software in Wonogiri District for historical and future condition.

The results show that for historical condition, the most severe drought occurred in 1997-1998. This extreme condition related to ENSO phenomenon that happened in this area during this period. Compared with the historical condition, the number of future drought event in 2080 period is less than the historical one. This result agree to the rainfall prediction. The generated rainfall for both scenarios are increase from existing period to 2080's.

Keywords: *meteorological drought, climate change, rainfall, drought risk map.*