Pola spasio-temporal hujan ekstrem berdasarkan data stasiun observasi dan data satelit di Kabupaten Cianjur = Spatio-temporal pattern of extreme rainfall based on station data and satellite data in Cianjur Regency

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Abstrak

Kabupaten Cianjur, Provinsi Jawa Barat, merupakan kabupaten yang rawan terhadap bencana alam, terutama bencana hidrometeorologi. Faktor curah hujan seperti kejadian hujan ekstrem menjadi pemicu utama banyaknya kejadian bencana seperti longsor dan banjir. Namun, keterbatasan data curah hujan menyebabkan kesulitan dalam memprediksikan pola hujan Dibutuhkan sumber data curah hujan lain yang dapat digunakan untuk menganalisis pola hujan. Penelitian ini bertujuan menganalisis pola spasio-temporal hujan ekstrem berbasis data stasiun observasi curah hujan dan data satelit NOAA-AVHRR dan mencari korelasi antara kedua sumber data tersebut. Data curah hujan harian periode tahun 2004-2017 dihitung menggunakan metode fix threshold R50. Hasil analisis memperlihatkan bahwa terdapat nilai korelasi kuat positif antara data curah hujan berbasis data stasiun observasi dengan data curah hujan satelit NOAA-AVHRR dengan nilai korelasi yaitu 0,9 pada bulan Maret 2015 dan 0,8 pada bulan Agustus 2016. Dapat dikatakan bahwa data satelit NOAA-AVHRR dapat dijadikan acuan untuk memprediksikan curah hujan. Hasil analisis juga memperlihatkan faktor ketinggian mempengaruhi pola spasial hujan ekstrem di Kabupaten Cianjur.

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Cianjur Regency, in West Java Province, is a regency which is prone to natural disasters, particularly hydro meteorological disasters. Rainfall related factors such as events of extreme rainfall became a primary cause for the relatively high frequency of occurrences of natural disasters such as landslides and flooding incidents. However, the limited rainfall data available caused difficulties in predicting the rainfall patterns. An alternative source of rainfall data is needed for analysing the spatial temporal pattern of extreme rainfall, based on data acquired from weather and rainfall observation stations as well as data acquired from NOAA AVHRR satellites, and also by finding correlations between the two data sources mentioned. Daily rainfall data between 2004 2017 would be counted by using the fix threshold R50 method. The results show that there are a strongly positive correlation r between the rainfall observation station data and the rainfall data from NOAA AVHRR with value 0.9 on March 2015 and 0,8 on August 2016. Because of that NOAA AVHRR satellite data can be relied upon for predicting rainfall. The results also show that elevation affects the spatial pattern of extreme rainfall in Cianjur Regency. Where, mountainous areas tend to have a higher frequency of extreme rainfall.