SUMMARY

Shabrina Arifah, Engineering Department, Faculty of Engineering Universitas Brawijaya, March 2018, *Rationalization of Post Station of Rain Station on Das Kemuning Kabupaten Sampang Using Kagan-Rodda and Kriging Method Considering Topographic Aspect*, Supervisor: Dr. Ery Suhartanto, ST., MT and Dian Chandrasasi, ST., MT.

In hydrology anialysis activities required hydrological data such as rainfall data, water discharge, climate data and so forth. Hydrological data can be obtained or monitored through various hydrological posts available in some areas within a region, but not necessarily the data obtained or produced is always accurate. The accuracy of the data in hydrology can be seen from the hydrological heading density with each other, the closer the hydrological post, the data obtained will be more accurate. Given the importance of hydrological data information that relies on irrigation infrastructure it is necessary to rationalize or plan an effective and efficient network of rainfall stations.

This study uses Kagan-Rodda and Kriging method in determining the number of rain stations and the pattern of rain station distribution. The final analysis in this study is to try to find linkages between rain station networks on topography factors such as distance, elevation, and slope. The related linkage is the relationship between the topography factor to the descending rain, and the relationship between the topography parameters.

The result of rationalization of rain station based on WMO standard is 3 rain stations. While the result of Kagan-Rodda method based on annual cumulative rainfall data from Polygon Thiessen method, got the ideal number of rain station is 4 rain station. And based on Kriging method obtained the ideal number of rain station that is 5 rain station. For the results of Kagan-Rodda method, topography (distance, elevation, and slope) factors that have strong relation between topographic parameters are distance and elevation with R value 0,416. While for topographic relationship based on rainfall with topographic parameter that is slope have strong relation with value R equal to 0,591. And for the results of Kriging method has a fairly strong topographic relationship between the topographic parameters of elevation and distance parameters with R values of 0.701 and for topographic relations based on rainfall with topographic parameters ie slope has a strong enough relationship with R value of 0.648.

Keywords: Rationalization, WMO standard, Kagan-Rodda Method, Kriging Method, Topography Factor

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