

ANALYSIS OF THE DISTRIBUTION OF RAIN STATION BASED ON THE SPREAD OF MORFOHYDROMETRIC ZONE IN WEST JAVA PROVINCE

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Abstract

1. Introduction

West Java Province has a different region characteristic. The difference of characteristic can be viewed from the differences of physiography, topography, and isohyet. Ideally, rain station should represent each district in West Java. The physical parameter, if we connected between the aspect of region representation and the rain station, will be called then as morfohydrometry. The ideal condition occurs when rain station can represent every physical variable. Some other facts developed in West Java Province related to rain station are:

- West Java Province has quite number of rain station but they are less representative to all districts.
- There are data collection, but they are not complete both qualitative and quantitative.

2. Methodology

The analysis of the spread of rain station is conducted by using analysis of Geographic Information System. It consists of several stages, those are: identify and inventory rain station, determine morfohydrometric zones which consists of collecting secondary thematic map as correction of isohyet map, and overlapping maps.

3. Research Result and Discussion

The overlay research of spread map of rain station with physiographic map shows that rain station in West Java spread to all zones but it is not evenly. The spread of rain station can be found more in southern zone of mountain area. Meanwhile, for the north part of West java itself that is beach area, the spread of rain station based on topographic zone shows that rain station were spread more on topographic zone < 600 m dpl with 51 rain station spread, while ideal number per 1000 km² is 26 rain stations. There is a compatibility at topographic zone > 1500 dpl between actual station number with ideal number per 1000 km². The spread of rain station based on isohyet zone shows that rain station spread more on isohyet zone of 2500 – 3000 with ideal and actual difference of rain station representative to these zones are more than 26 rain station. While at 1000 – 2000 and 4500 – 5000, there is minus 1 rain station from its ideal number.

There are lots of area zoning which have not had rain station representative. An ideal determination criteria for zoning morfohydrometric area is 10 – 1000 km². This is due to more specific area zoning from the three aspects of physiography, topography and isohyet. Because the spread of rain station occurs more in southern of West Java, therefore the area zoning which do not have rain station representative will be more in middle and north part of West Java. Some area zoning which do not have rain station representative are zone of Bd3a, Bd7a, Bg2a, Bg6b, Bg7b, Bg6c, Bg5d, Bg6d, Jk3a, Pb8c, Ps1b, Ps6a and more. Rain station spread more on Ps5a with 15 rain station representatives, while the ideal number is 6 rain stations.

Keywords: *rain station, zoning, morfohydrometry, West Java.*